AMENDED AGENDA
City Council Workshop (Discussion Only)
Tuesday, November 17, 2026 at 5:30PM
Fire Station I, Training Room
201 Button Hall Boulevard, Goose Creek, SC

I. CALL TO ORDER

II. BUSINESS ITEM(S)

a. DISCUSSION OF OAK CREEK DRAINAGE STUDY

b DISCUSSION OF BMX TRACK

c. DISCUSSION OF POTENTIAL ANNEXATION OF UNADDRESSED PROPERTY LOCATED NEAR ASHTON DRIVE AND SUSSEX COURT (TMS # 234-00-00-079 / +/- 4.03 ACRES / UNADRESSED PROPERTY TRACT A2 OF ASHTON AT DEVON FOREST BERKELEY COUNTY, SOUTH CAROLINA)

d. DISCUSSION OF POTENTIAL ANNEXATION OF 222 AMY DRIVE (TMS # 235-13-08-018 / +/- 0.35 ACRES)

e. DISCUSSION OF POTENTIAL ANNEXATION OF 588 OLD MT HOLLY ROAD (TMS # 234-00-00-143 / +/- 0.94 ACRES

f. DISCUSSION OF FIRE DEPARTMENT SHIFT SCHEDULE ASSESSMENT

III. ADJOURN

Request for City Council Agenda Item

To: Mayor and City Council

From: Natalie Zeigler

Please check one box

☐ Regular Meeting ☐ Special Meeting

☐ Work Session

Please check one box, if applicable

☐ Ordinance ☐ Resolution ☐ Proclamation ☐ Request to Purchase

Ordinance/Resolution Title

DISCUSSION OF OAK CREEK DRAINAGE STUDY

Background Summary

A study was commissioned to better understand historical flooding issues in this area and potential ways to solve this long-term.

Financial Impact

Impact if denied

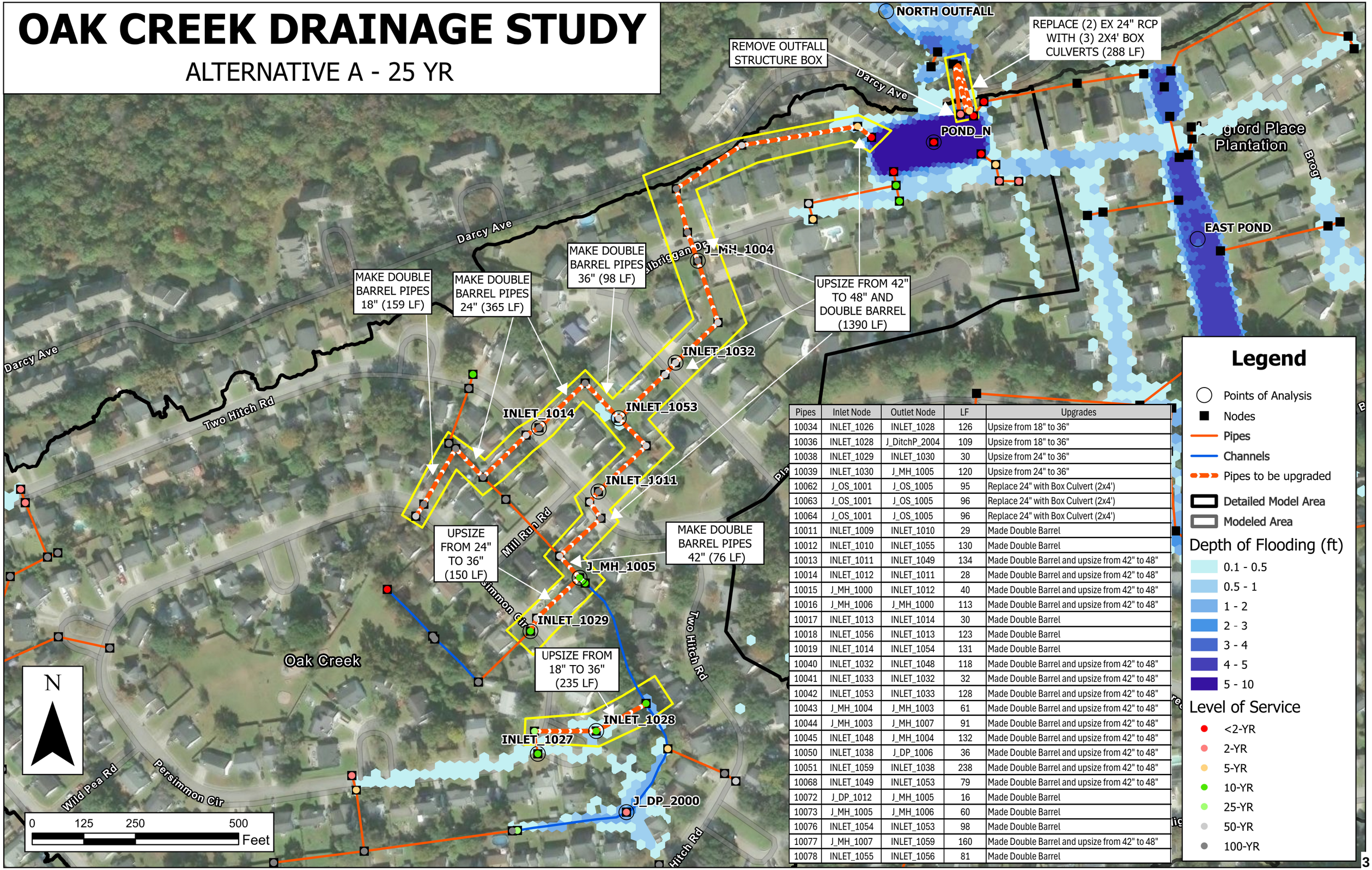
Impact if approved

Department Head: _____ *Signature & Date*

City Administrator: _____ *Signature & Date*

OAK CREEK DRAINAGE STUDY

ALTERNATIVE A - 25 YR



Pipes	Inlet Node	Outlet Node	LF	Upgrades
10034	INLET_1026	INLET_1028	126	Upsize from 18" to 36"
10036	INLET_1028	J_DitchP_2004	109	Upsize from 18" to 36"
10038	INLET_1029	INLET_1030	30	Upsize from 24" to 36"
10039	INLET_1030	J_MH_1005	120	Upsize from 24" to 36"
10062	J_OS_1001	J_OS_1005	95	Replace 24" with Box Culvert (2x4')
10063	J_OS_1001	J_OS_1005	96	Replace 24" with Box Culvert (2x4')
10064	J_OS_1001	J_OS_1005	96	Replace 24" with Box Culvert (2x4')
10011	INLET_1009	INLET_1010	29	Made Double Barrel
10012	INLET_1010	INLET_1055	130	Made Double Barrel
10013	INLET_1011	INLET_1049	134	Made Double Barrel and upsize from 42" to 48"
10014	INLET_1012	INLET_1011	28	Made Double Barrel and upsize from 42" to 48"
10015	J_MH_1000	INLET_1012	40	Made Double Barrel and upsize from 42" to 48"
10016	J_MH_1006	J_MH_1000	113	Made Double Barrel and upsize from 42" to 48"
10017	INLET_1013	INLET_1014	30	Made Double Barrel
10018	INLET_1056	INLET_1013	123	Made Double Barrel
10019	INLET_1014	INLET_1054	131	Made Double Barrel
10040	INLET_1032	INLET_1048	118	Made Double Barrel and upsize from 42" to 48"
10041	INLET_1033	INLET_1032	32	Made Double Barrel and upsize from 42" to 48"
10042	INLET_1053	INLET_1033	128	Made Double Barrel and upsize from 42" to 48"
10043	J_MH_1004	J_MH_1003	61	Made Double Barrel and upsize from 42" to 48"
10044	J_MH_1003	J_MH_1007	91	Made Double Barrel and upsize from 42" to 48"
10045	INLET_1048	J_MH_1004	132	Made Double Barrel and upsize from 42" to 48"
10050	INLET_1038	J_DP_1006	36	Made Double Barrel and upsize from 42" to 48"
10051	INLET_1059	INLET_1038	238	Made Double Barrel and upsize from 42" to 48"
10068	INLET_1049	INLET_1053	79	Made Double Barrel and upsize from 42" to 48"
10072	J_DP_1012	J_MH_1005	16	Made Double Barrel
10073	J_MH_1005	J_MH_1006	60	Made Double Barrel
10076	INLET_1054	INLET_1053	98	Made Double Barrel
10077	J_MH_1007	INLET_1059	160	Made Double Barrel and upsize from 42" to 48"
10078	INLET_1055	INLET_1056	81	Made Double Barrel

Legend

- Points of Analysis
- Nodes
- Pipes
- Channels
- Pipes to be upgraded
- Detailed Model Area
- Modeled Area

Depth of Flooding (ft)

- 0.1 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 10

Level of Service

- <2-YR
- 2-YR
- 5-YR
- 10-YR
- 25-YR
- 50-YR
- 100-YR

Oak Creek Drainage Improvements

Concept Level Cost Estimate

Item	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	EA		$ 202,400.00
Bonds and Insurance	1	EA		$ 25,300.00
Construction Stakes, Lines, and Grades	1	EA		$ 38,000.00
Traffic Control	1	EA		$ 101,200.00
Erosion and Sediment Control	1	EA		$ 177,100.00
Clearing and Grubbing	1	EA		$ 50,600.00
ROW restoration	1	EA		$ 63,300.00
Remove Existing, Install dual 48in RCP	1390	LF	$ 900.00	$ 1,251,000.00
Remove Existing, Install dual 42in RCP	76	LF	$ 850.00	$ 64,600.00
Remove Existing, Install Dual 36in RCP	248	LF	$ 750.00	$ 186,000.00
Remove Existing, Install 36in RCP	235	LF	$ 400.00	$ 94,000.00
Remove Existing, Install Dual 24in RCP	365	LF	$ 600.00	$ 219,000.00
Remove Existing, Install Dual 18in RCP	159	LF	$ 450.00	$ 71,550.00
Remove existing, Install 2' x 4' box culverts	288	LF	$ 700.00	$ 201,600.00
Remove Existing, Install new Catch Basin/Junction B	30	EA	$ 8,000.00	$ 240,000.00
Remove Outlet Control Structure	1	EA	$ 18,000.00	$ 18,000.00
Asphalt removal and replacement	630	SY	$ 140.00	$ 88,200.00
curb and gutter	450	LF	$ 60.00	$ 27,000.00
Flowable Fill	30	CY	$ 250.00	$ 7,500.00
Fence replacement	500	LF	$ 50.00	$ 25,000.00
driveway repair	300	SY	$ 120.00	$ 36,000.00
SUB-TOTAL CONSTRUCTION COST				$ 3,187,350.00
Contruction Administration and Oversight	*18%*			*$ 573,800.00*
20% Overall Contingency				*$ 637,470.00*
TOTAL COST				**$ 4,398,700.00**
TOTAL CONSTRUCTION COST				***$ 3,825,000.00***

*This is a concept level cost estimate. Cost does not include any costs associated withsurvey, design, permitting, easement acquistion, or utility coordination

WOOLPERT
ARCHITECTURE | ENGINEERING | GEOSPATIAL

Memo

To: David Harris | Berkeley County, SC

From: Jody Igou, PE & Crystal Muller, PE | Woolpert

Date: July 28, 2026

Subject: Oak Creek Drainage Study

Background

Berkeley County contracted with Woolpert to investigate an ongoing flooding issue in the Oak Creek neighborhood in Goose Creek, SC. The most significant flooding was noted along the southeast corner of Persimmon Circle and Two Hitch Road, although modeling showed additional flooding on other neighborhood streets and yards. The homes in this area are slab on grade and therefore have minimal protection from flooding. The purpose of this project was to provide professional engineering services to identify the cause of flooding in the study area, shown as the detailed model area in Figure 1, determine the existing Level of Service (LOS) of the stormwater system, and determine the necessary upgrades to reduce flooding for the noted roads and residences for the 25-year storm event. This was accomplished through a compilation of field data collection, development of a 1D/2D hydrologic and hydraulic (H&H) PCSWMM model, identification of the cause of flooding, determination of potential upgrades, and an evaluation of the effects of any modifications on the downstream area. This memo summarizes the findings of this assessment and identifies specific stormwater infrastructure design alternatives to alleviate flooding.

Existing Data Compilation

Woolpert combined data provided by the County, publicly available data, survey, and field inventory data collected by Woolpert staff to develop the model. Detailed field notes and survey were collected for the area within the red detailed model area on Figure 1. This included pipe size, inverts, rim elevations, channel shapes, pipe material, pictures, outfall structures, etc. The purple boundary indicates areas where the stormwater system was located by field staff to determine where the areas drain, but inverts and some sizes were estimated. This approach ensured all runoff reached the appropriate pond and outfall. The area within the pink boundary was added to the model after initial model runs were complete, and County staff expressed interest in exploring upgrades to the south. Stormwater infrastructure in this area was also located by field staff but is approximate.

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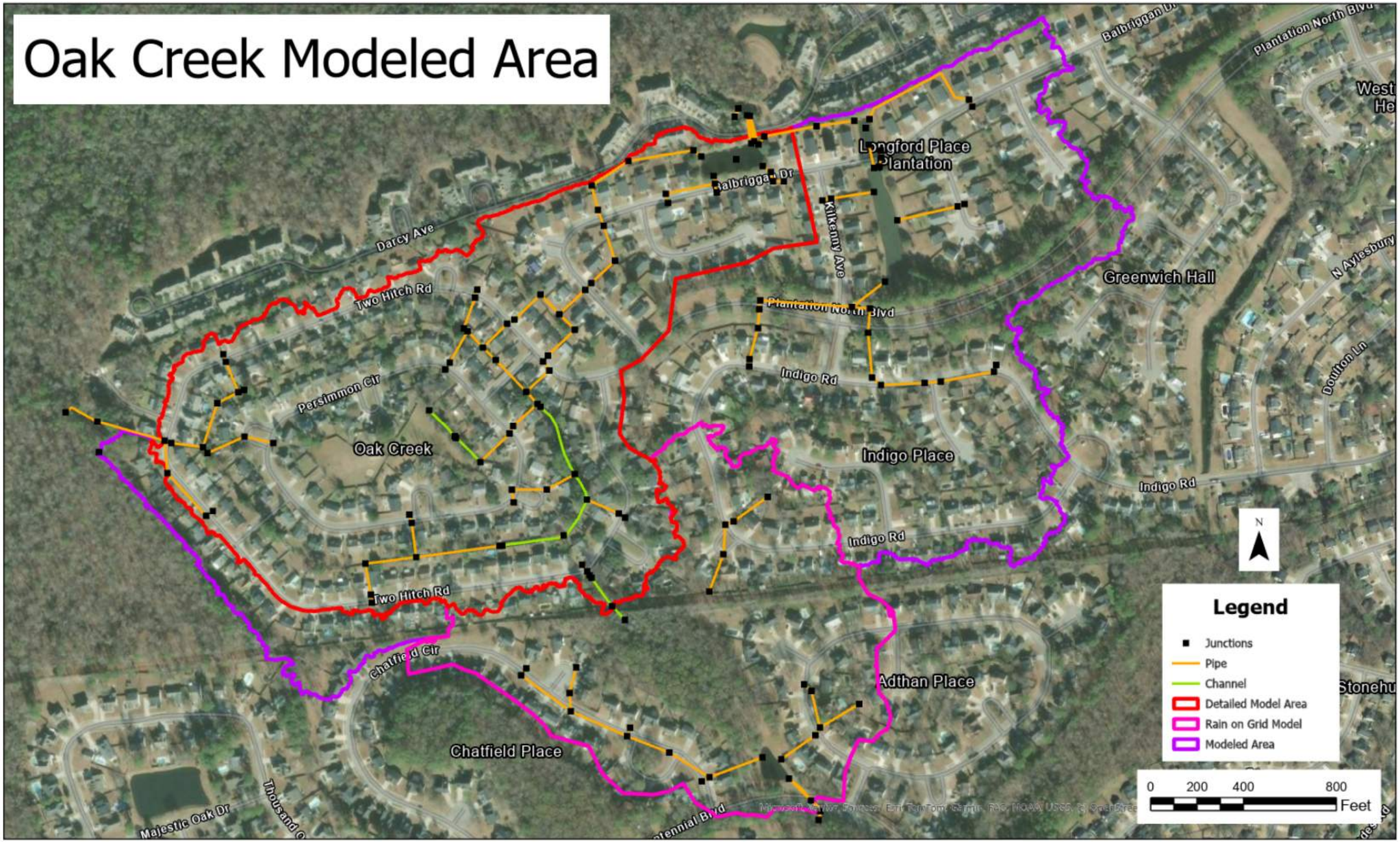


Figure 1: Oak Creek Modeled Area

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Hydrologic and Hydraulic Modeling

Woolpert developed a 1D/2D H&H PCSWMM model to identify the causes of flooding and evaluate alternative solutions. The purple and red areas in Figure 2 drain to the outfalls to the north and west and were delineated using the previously mentioned data sources and the most current, available LiDAR data (2020 USGS Lidar DEM: Savannah Pee Dee, SC). Detailed modeling (red area) was performed for the primary area of interest of the Oak Creek neighborhood and the downstream infrastructure needed to route it to the main pond and then the outfall to the north. The routing for the detailed area was based on survey and field collected stormwater system.

Later, the pink area draining to the south was modeled using rain-on-grid hydrology and 2D overland flow to street stormwater system or channel within the wooded area and eventually to South Pond. Due to no survey data being collected, approximate inverts were established using a combination of field measurements and LiDAR data. All flooding shown in the purple and pink areas should be considered approximate as they were not the focus of this analysis.

Existing Evaluation Alternatives Analysis

The model was evaluated for the 2-, 5-, 10-, 25-, 50-, and 100-year, 24-hour storm events to determine the level of service (LOS) of the existing system within Oak Creek. LOS is defined as the largest, simulated storm event in which water does not cause street flooding. Due to numerous inlets and junction boxes within the stormwater system, representative nodes were chosen for areas of concern and specific data has been provided in tables and profiles for those nodes. Table 1 shows the LOS of selected nodes along the area of concern as well as the peak stage for each storm event.

Table 1: Existing Peak Stage and LOS

Location	Name	Existing Peak Stage (ft)						LOS
		002-YR	005-YR	010-YR	025-YR	050-YR	100-YR	
Ditch	J_DP_2000	29.5	29.93	29.43	29.49	29.42	29.51	<002-YR
Ditch	INLET_1028	27.95	28.14	28.27	28.36	28.4	28.44	<002-YR
Persimmon Cir	INLET_1027	27.97	28.15	28.27	28.38	28.43	28.48	<002-YR
Persimmon Cir	INLET_1029	27.83	28.15	28.25	28.32	28.41	28.46	<002-YR
Backyards	J_MH_1005	27.81	28.15	28.53	28.82	28.96	29.11	<002-YR
Two Hitch Rd	INLET_1011	26.56	27	27.23	27.41	27.76	28.09	005-YR
Two Hitch Rd	INLET_1014	26.34	27.49	27.96	28.09	28.23	28.34	010-YR
Backyards	INLET_1053	25.73	26.35	26.73	27.25	27.95	28.35	<002-YR
Balbriggan Dr.	INLET_1032	24.72	25.49	25.95	26.34	26.91	27.18	005-YR
Balbriggan Dr.	J_MH_1004	22.99	23.7	24.12	24.31	24.44	24.51	100-YR
Ex Pond	Pond_N	22.03	22.03	22.03	22.03	22.03	22.03	<002-YR

Figure 2 shows the existing 25-year floodplain as well as the LOS of all nodes. The nodes with black circles around them represent the nodes in **Table 1**. Berkeley County staff confirmed the flooding locations shown look representative of past flooding and indicated the southeast corner of Persimmons Circle and Two Hitch Road are the areas of greatest concern. Flooding in the road and back yards near inlets was noted for much of the stormwater system. There also appears to be significant flooding on Darcy Avenue due to the existing pond overtopping. Although these areas were not the focus of the study, they are between the problem area and the outfall and therefore

need to be addressed in addition to the southeast corner of Persimmons Circle and Two Hitch Road. **Figure 2** also shows significant flooding in some areas outside of the red detailed study area. These areas are included because they drain to the same pond or an outfall of interest, but the stormwater system in these areas were estimated and therefore the flooding shown in these areas are also only estimates.

Review of the existing model and results indicate the primary cause of flooding is an undersized stormwater system. This includes both pond and pipes sizes. The Oak Creek and Longford Place subdivisions are older subdivisions and were likely built before stormwater requirements were required, and definitely before more modern/restrictive stormwater regulations. This is apparent as many of the stormwater inlets have a less than 2-year LOS and the ponds show significant overtopping.

Figure 3 shows the profile of the main stormwater pipe system and the peak stage for all modeled storm events. The path of the profile is shown in the bottom left corner and road crossings are shown for reference. Node labels that correspond to the summary table are also provided. Each storm event is shown in a separate color and referenced at the top. The 100-year is black, 50-year is purple, 25-year is blue, 10-year is green, 5-year is yellow, and 2-year is orange.

Several locations show significant flooding, even in small storm events, particularly in and upstream of the ditch between Persimmons Circle and Two Hitch Road. This area shows approximately two feet of flooding in small events and up to four feet of flooding in large events. This flooding appears to impact both roadways and homes, with the existing ditch overtopping and potentially causing structural flooding for surrounding homes.

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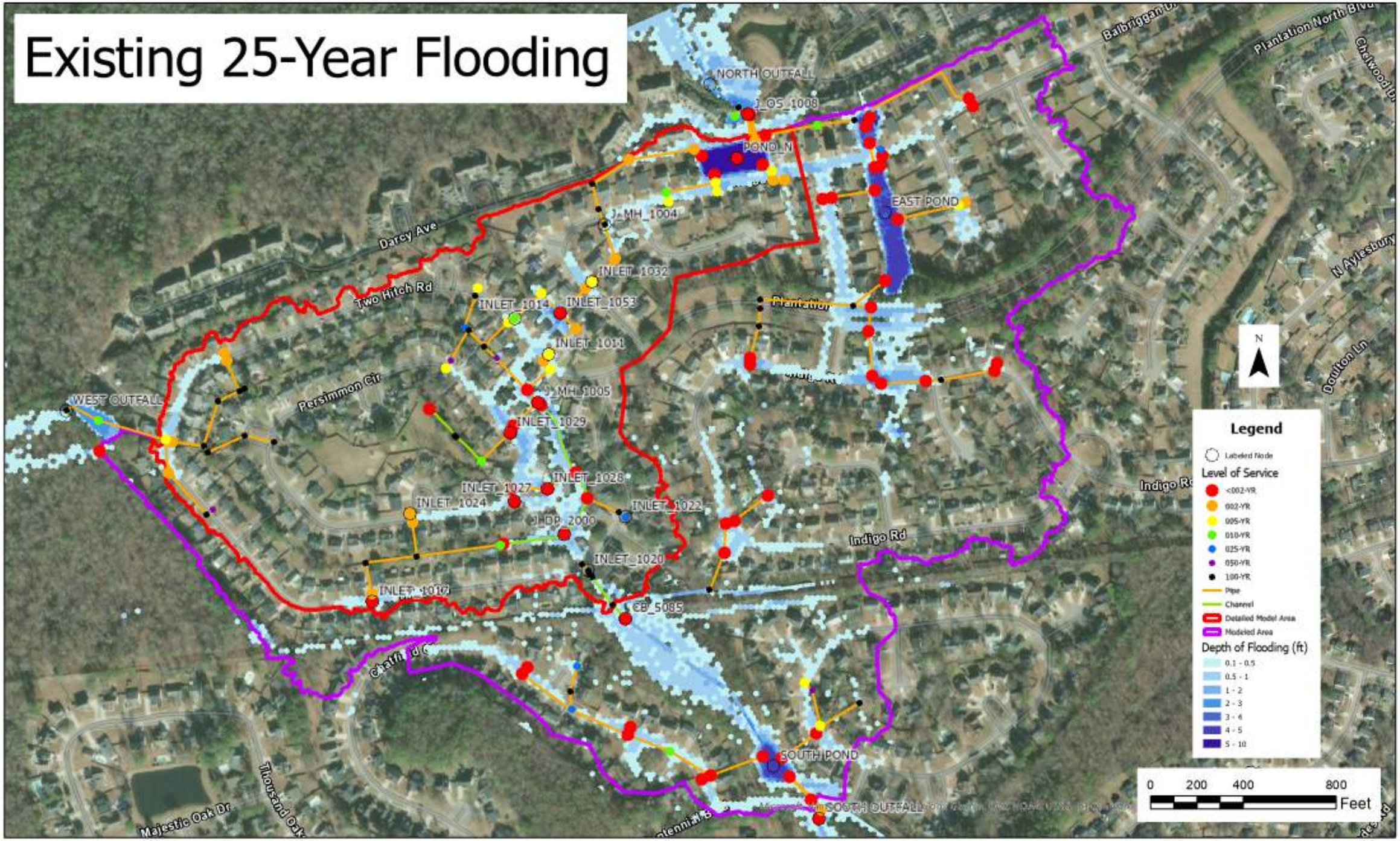


Figure 2: Existing 25-Year Flooding and LOS

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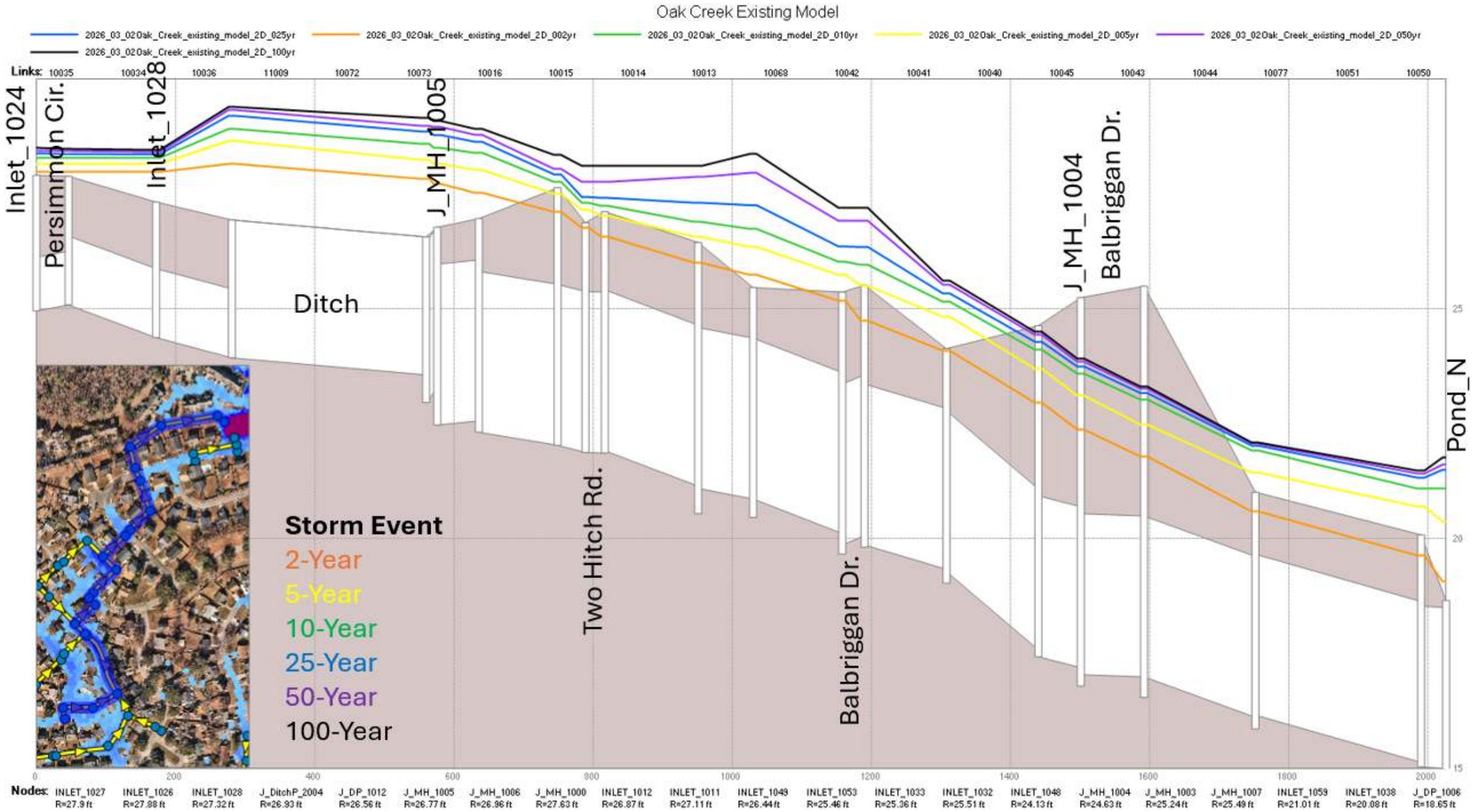


Figure 3: Existing Conditions Profile

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Alternatives Analysis

A total of five (5) alternatives were explored to reduce the flooding in Oak Creek to the maximum extent practicable. The goal was to achieve a 25-year LOS, but the 2-, 5-, 10- 25-, 50-, and 100-year were run to determine the LOS of each node for each alternative. Options such as new outfall locations, upsized pipes, and revised outfall structures were considered in different combinations. The alternatives were named Alt A-E and a brief summary of each is below. The following sections also discuss each alternative and the results of each in more detail.

- Alt A – Double and/or Upgrade Existing Pipes
- Alt B – New Outfall to North with Double and/or Upgraded Pipes
- Alt C – New Outfall by Gas Pipeline and Double and/or Upgraded Pipes
- Alt D – Upgrades to South Outfall
- Alt E – Upgrades to South Outfall and Doubled and/or Upgraded Pipes

The existing pond is significantly undersized and unable to meet the current water quality or quantity requirements. Approximately 3.6 acre-ft of storage would be needed to address water quality for the area draining to the pond; the existing pond has a total storage volume of approximately 2.4 acre-feet. Upgrades to the existing pond were not feasible based on space constraints. Adding a new pond in the Oak Creek Park location was considered, but ultimately not explored as the park is located at the highest elevation part of the neighborhood and it is not practical to send stormwater uphill.

All proposed alternatives include increasing the flow rates out of the stormwater system to move it downstream, to the receiving wetlands, faster. Some alternatives increase the flow rates at existing outfalls, and some include adding new outfalls. No new impervious area is proposed so the total volume of runoff draining to the wetlands is unchanged, and therefore unlikely to negatively impact the large wetland.

Stormwater and sewer as-builts provided by the County were considered during the development of each alternative to minimize utility conflicts and verify feasibility of the alternatives, but full information was not available in all locations. In some areas, the existing stormwater and sewer system are in close proximity and will need to be field verified before final plans can be developed.

Alternative A – Double and/or Upgrade Existing Pipes

Alternative A (Alt A) focused on staying within existing easements and upgrading the existing pipe system to reduce flooding. **Figure 4** outlines the areas where the stormwater system is upgraded in yellow. In most locations with upgrades, the pipes were increased and doubled in capacity. In the existing pond (Pond_N), the outfall structure was removed to discharge water faster during a storm event, but the existing dual 24-inch outfall pipes remained as the primary pond outfall. In addition, the overflow pipes that discharge under Darcy Avenue were upsized from three (3) 24-inch pipes to three (3) 2x4 foot box culverts. Based on the sewer as-builts for Darcy Avenue, there is an existing sewer pipe that runs parallel to the road on the south side, and culverts greater than 24 inches tall

are likely infeasible due to the need to maintain appropriate separation and cover. The pond immediately downstream of Darcy Avenue appears to discharge to the adjacent wetland through a channel. The additional flow will continue to use the channel to drain into the wetland. The removal of the outfall structure and upsized overflow pipes greatly reduces the extent of flooding seen on Darcy Avenue as seen in **Figure 4**. The existing pond still overtops, but the depth of flooding and length of flooding is reduced.

Alt A reduces the flooding in most areas along the stormwater system and achieves a 25-year or greater LOS for most of the system. In the area of most concern near the southwest side of Persimmons Circle and Two Notch Road, only a 10-year LOS is achieved. While it didn't reach the full goal of the County, it did significantly reduce flooding as it was previously at a less than 2-year LOS. It also decreases the flooding in the 25-year storm by nearly two (2) feet in some areas.

Table 2 shows the peak stage of select locations as well as the LOS achieved by Alt A. **Figure 5** shows the main pipe run and the peak stages for each storm event. This run can be directly compared to the existing conditions profile in **Figure 3**. Although this scenario achieves most of the goals of the County and stays within the existing easements, there are few concerns. Many of the easements are narrow and are located between or behind homes that are fairly close together, which could inhibit the ability to double the capacity of these pipes. In addition, several stormwater easements appear to overlap a sewer easement, so the existing storm and sewer pipes likely have little separation. Upsizing and adding dual barrels may be challenging in some locations, particularly around Balbriggan Drive. **Figure 6** shows the location of known stormwater and sewer easements, although they are approximate and may not include all easements or utilities. Full survey and careful design will be needed before construction to verify feasibility.

Table 2: Alt A Peak Stages and LOS

Location	Name	Alt A Peak Stage (ft)						LOS
		002-YR	005-YR	010-YR	025-YR	050-YR	100-YR	
Ditch	J_DP_2000	26.84	27.11	27.4	27.88	28.17	28.35	002-YR
Ditch	INLET_1028	26.62	26.85	27.19	27.82	28	28.13	010-YR
Persimmon Cir	INLET_1027	26.87	27.29	27.77	28.04	28.16	28.23	010-YR
Persimmon Cir	INLET_1029	25.23	25.62	26.13	27.15	27.08	28.02	010-YR
Backyards	J_MH_1005	25.19	25.57	26.08	27.08	26.93	27.9	010-YR
Two Hitch Rd	INLET_1011	24	24.32	24.76	26.05	25.8	26.99	100-YR
Two Hitch Rd	INLET_1014	25.72	25.83	26.01	26.43	26.71	27.96	100-YR
Backyards	INLET_1053	22.99	23.34	23.93	25.42	24.98	26.43	050-YR
Balbriggan Dr.	INLET_1032	21.95	22.3	23.16	24.64	23.77	25.68	050-YR
Balbriggan Dr.	J_MH_1004	20.3	21.03	22.11	23.32	21.71	24.18	100-YR
Ex Pond	Pond_N	22.16	22.16	22.16	22.16	22.22	22.16	<002-YR

Widening and deepening the outfall ditch (labeled North Outfall) was also explored. The outfall ditch was only able to be deepened by a few inches due to the existing low elevations in the ponds and the wetlands. The ditch was widened to thirty (30) feet. The results only gained 0.01 feet of reduction in area around Persimmons Circle and the back yards that still experience flooding in the 25-year storm event. The cost and labor of the ditch improvements outweigh the benefits. However, if a field inspection documents that there are maintenance issues that need to be addressed, those should be remedied as they would not be reflected in the modeling.

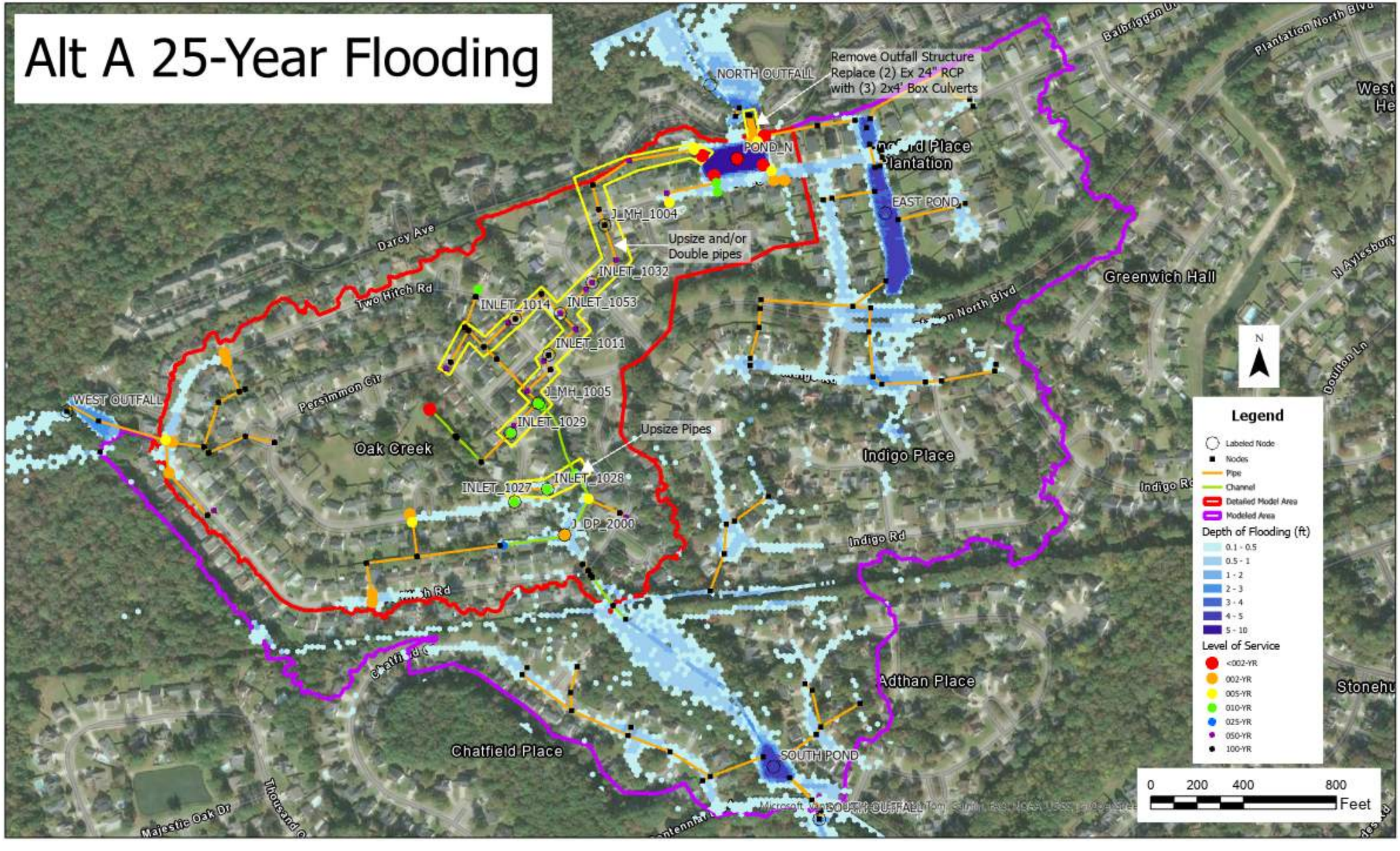


Figure 4:Alt A 25-Year Flooding and LOS

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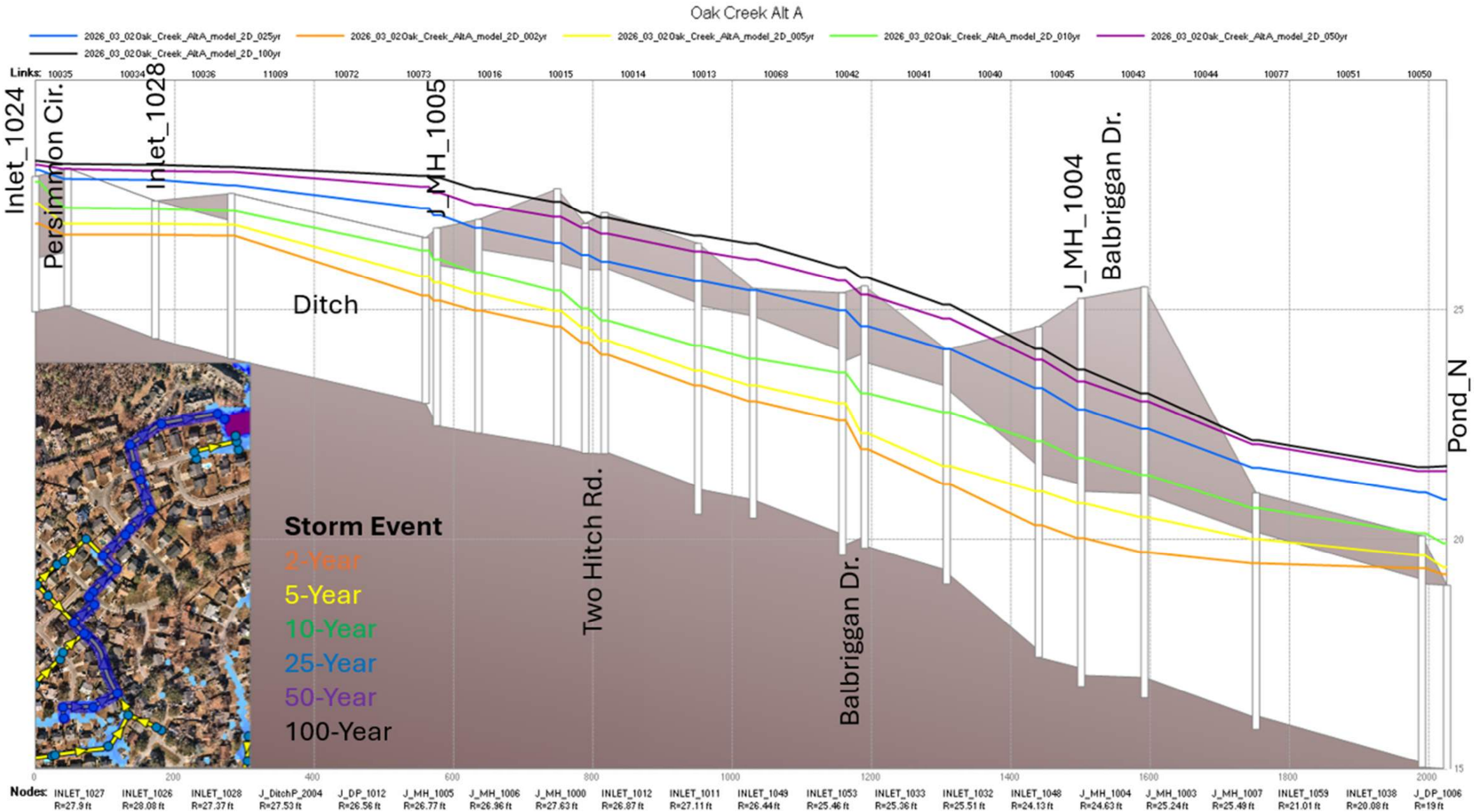


Figure 5: Oak Creek Alt A Profile

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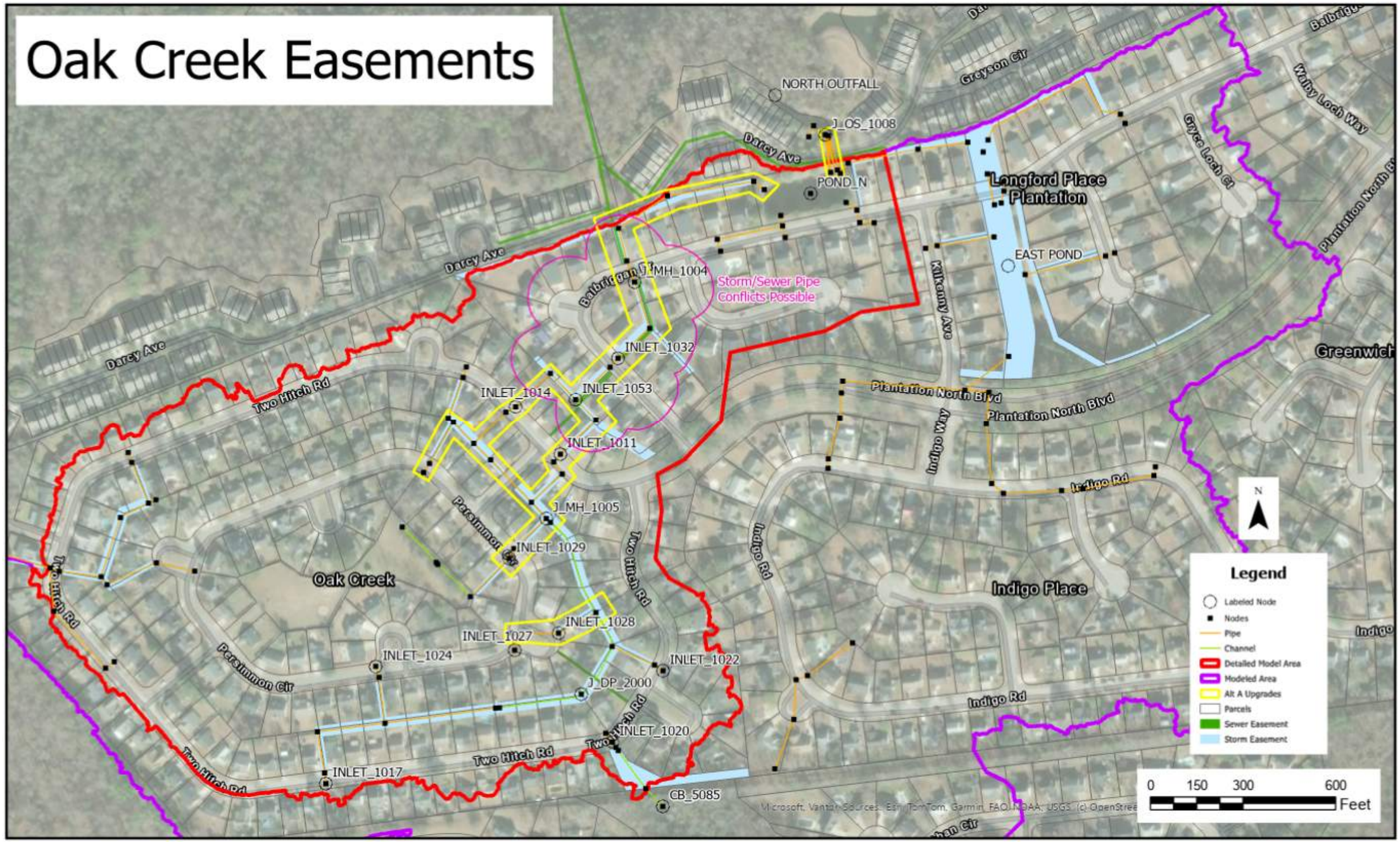


Figure 6: Oak Creek Easements

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Alternative B - New Outfall to North with Double and/or Upgraded Pipes

Alternative B (Alt B) included creating a new outfall location to the north. This outfall intercepted and re-routed the runoff west of Two Hitch Road, reducing the runoff draining into lower half of the system and to the pond. The new outfall path and location was determined based on routing between existing buildings, limiting wetland impacts, and finding a location with an invert low enough to provide a positive slope. The new outfall pipes were modeled as dual 48" pipes and several pipes were added to connect existing inlets and re-route this drainage to the north. In addition, several runs of pipe were doubled. These are shown in **Figure 7** and outlined in yellow.

This alterative provided great improvement in the stormwater system east of Two Hitch Road as noted in **Figure 7** and the profile in **Figure 8**. Further improvements to the pond and flooding in Darcy Avenue are likely feasible with removal of the outfall structure and upsizing the overflow pipes (not currently modeled). Additional improvements are also likely with additional pipe upgrades west of Two Hitch Road (also not modeled). While this alternative seemed promising, it was noted that the outfall path to the north was almost 20 feet deep near the northwest corner of Two Hitch Road and approximately 15 feet deep between the buildings (see **Figure 9**). Based on input from Berkely County staff, this depth was deemed too deep to make this alternative feasible and further upgrades were not implemented. In addition, this alternative would require the acquisition of new easements. *Therefore, this alternative was deemed infeasible and further refinements were not performed.*

Table 3 shows the peak stages for Alt B for the noted nodes that have black circles in **Figure 7**. The LOS is also indicated and color coded.

Table 3: Alt B Peak Stages and LOS

Location	Name	Existing Peak Stage (ft)						LOS
		002-YR	005-YR	010-YR	025-YR	050-YR	100-YR	
Ditch	J_DP_2000	27.13	27.46	28	28.52	28.76	28.93	<002-YR
Ditch	INLET_1028	26.61	27.04	27.54	27.98	28.11	28.2	005-YR
Persimmon Cir	INLET_1027	26.94	27.58	27.92	28.13	28.23	28.3	005-YR
Persimmon Cir	INLET_1029	25.25	25.66	26.12	26.54	27.2	27.68	025-YR
Backyards	J_MH_1005	25.18	25.58	25.98	26.29	26.66	27.1	050-YR
Two Hitch Rd	INLET_1011	22.94	23.11	23.3	23.45	23.63	23.81	100-YR
Two Hitch Rd	INLET_1014	20.84	21.12	21.43	21.7	22.08	22.56	100-YR
Backyards	INLET_1053	22.07	22.29	22.6	22.95	23.65	23.86	100-YR
Balbriggan Dr.	INLET_1032	21.32	21.54	21.84	22.34	23.42	23.68	100-YR
Balbriggan Dr.	J_MH_1004	19.38	19.72	20.22	21.59	22.51	22.86	100-YR
Ex Pond	Pond_N	22.22	22.22	22.22	22.22	22.22	22.22	<002-YR

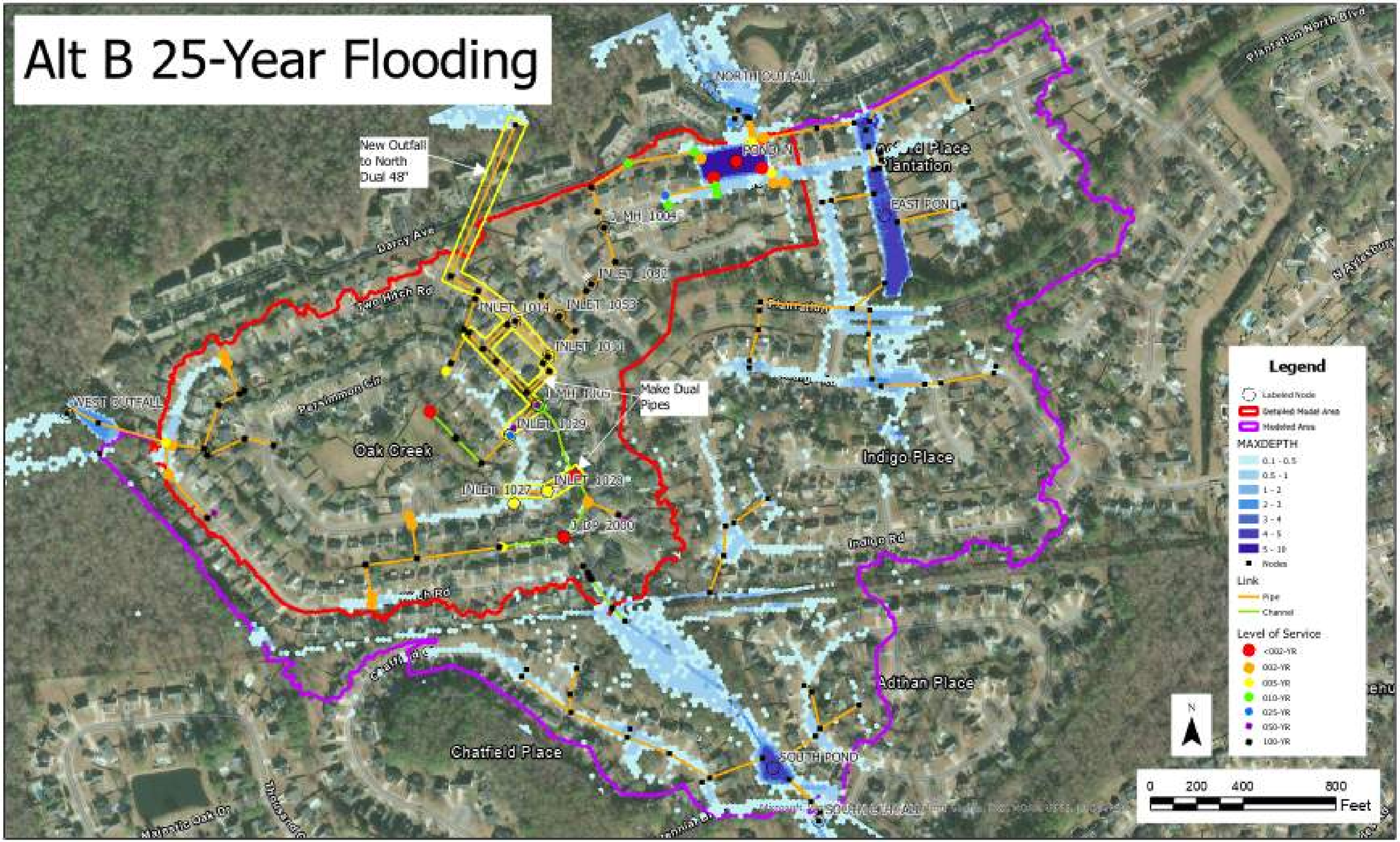


Figure 7: Alt B 25-Year Flooding

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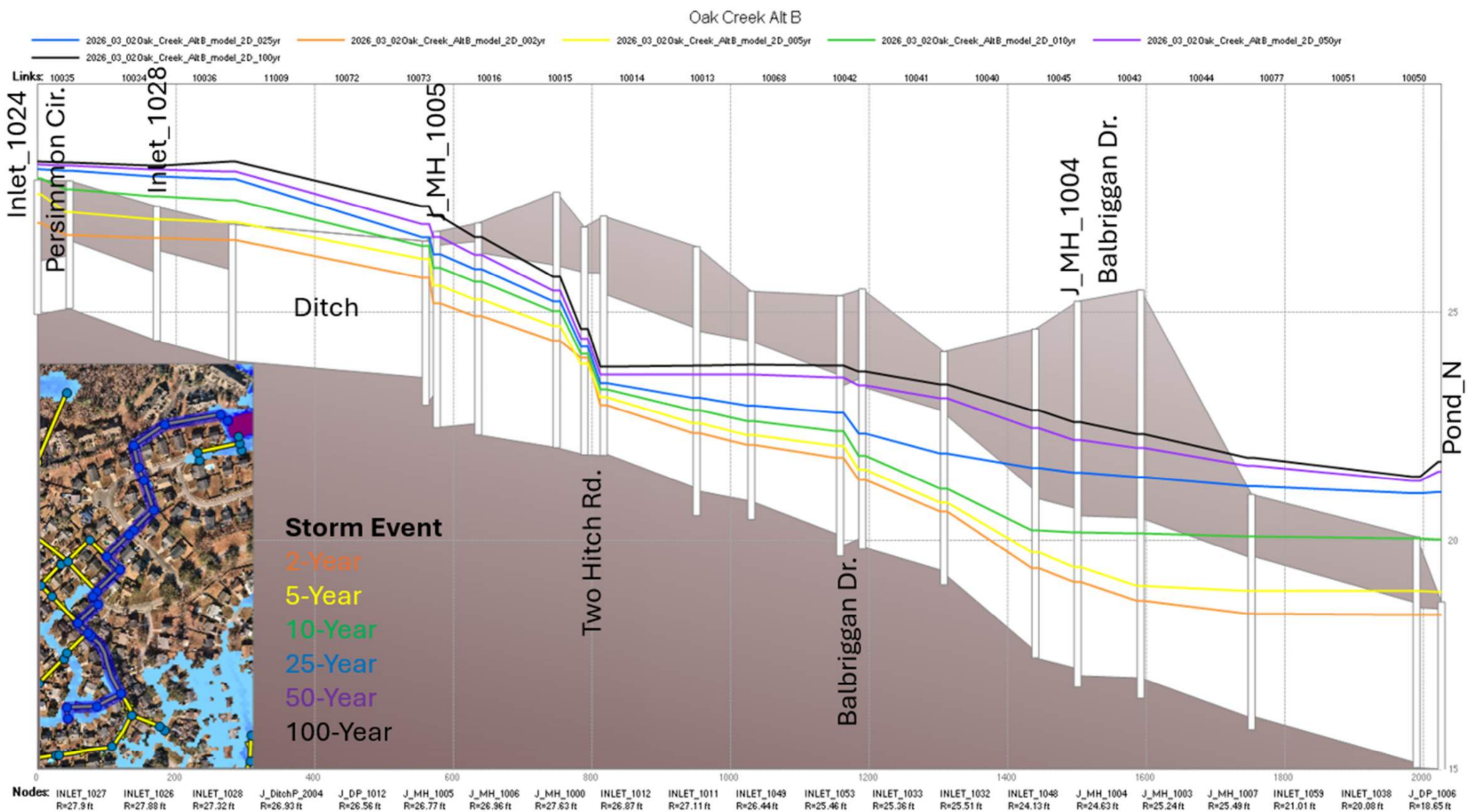


Figure 8: Oak Creek Alt B Profile

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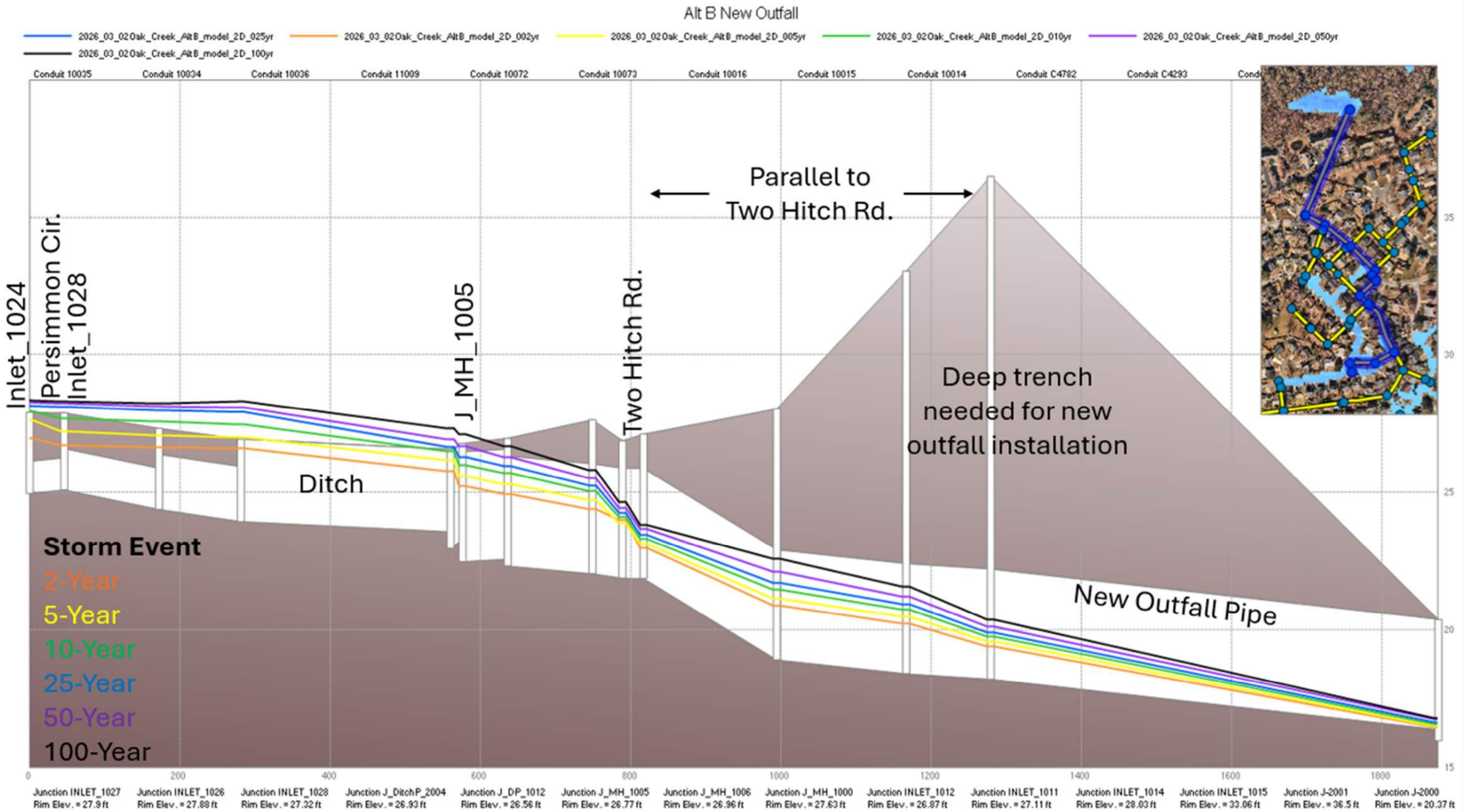


Figure 9: New Outfall Profile

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Alternative C - New Outfall by Gas Pipeline and Double and/or Upgraded Pipes

Since Alt B showed improvement, but was impractical, other locations for a new outfall were explored. A location further west and closer to the pond was identified (see **Figure 10**), adjacent to a sewer easement. The wetland area west of the sewer easement, and downstream of the sewer easement berm, is owned by the City of Goose Creek while the east side is owned by Persimmon Hill Homeowners Association. Ideally the new outfall would be located on the west side due to the willingness of the City of Goose Creek to work with Berkeley County and the reduced risk of erosion on the berm. However, the horizontal distance between the sewer pipe and the existing building on Darcy Ave is minimal and the current stormwater pipe and drainage easement run on the east side of the sewer easement. Additionally, the inverts of the sewer system need to be field verified to confirm if there is enough vertical space for this option to be feasible. The inverts are noted on the as-built, but it is unclear what datum the elevations are in. It appears likely the sewer easements and storm inverts are similar which may limit the ability of a new stormwater pipe to cross over the sewer pipe to discharge on the west side of the berm. Full survey data, to include subsurface utility investigation, would be needed to confirm the most feasible location for the new outfall.

In addition to the new outfall, this alternative includes upgrading the pipe system upstream of this outfall to larger dual pipes as identified within the yellow outline on **Figure 10.** The existing pond outfall structure was removed, and the overflow pipes were upgraded to reduce flooding on Darcy Avenue. These upgrades are largely consistent with Alt A upstream of Balbriggan; however, the ditch system between Persimmon Circle and Two Hitch Road was piped with 3x5 feet box culverts in this alternative.

Figure 10 shows the 25-year floodplain and the LOS of the nodes within the detailed model area. **Figure 11** is the same profile as shown in previous alternates. **Table 4** shows the peak stages and LOS of selected nodes. This alternative significantly reduces flooding throughout the system but does not completely eliminate it in all areas. Overall, results were similar to Alt A, but with decreased pressure on the existing pond decreased time of flooding on Darcy Ave.

Table 4: Alt C Peak Stages and LOS

Location	Name	Existing Peak Stage (ft)						LOS
		002-YR	005-YR	010-YR	025-YR	050-YR	100-YR	
Ditch	J_DP_2000	27.14	27.89	27.68	27.97	28.17	28.45	<002-YR
Ditch	INLET_1028	26.44	26.85	26.96	27.67	28	28.19	010-YR
Persimmon Cir	INLET_1027	26.67	27	27.62	28.06	28.16	28.26	010-YR
Persimmon Cir	INLET_1029	25.15	25.48	25.93	26.53	27.08	27.54	025-YR
Backyards	J_MH_1005	25.1	25.42	25.86	26.42	26.93	27.26	025-YR
Two Hitch Rd	INLET_1011	23.95	24.24	24.64	25.24	25.8	26.17	100-YR
Two Hitch Rd	INLET_1014	25.72	25.83	26.01	26.32	26.71	27.22	100-YR
Backyards	INLET_1053	22.96	23.28	23.73	24.42	24.98	25.35	100-YR
Balbriggan Dr.	INLET_1032	21.93	22.23	22.64	23.27	23.77	24.15	100-YR
Balbriggan Dr.	J_MH_1004	20.02	20.35	20.77	21.35	21.71	22.02	100-YR
Ex Pond	Pond_N	22.22	22.22	22.22	22.22	22.22	22.22	<002-YR

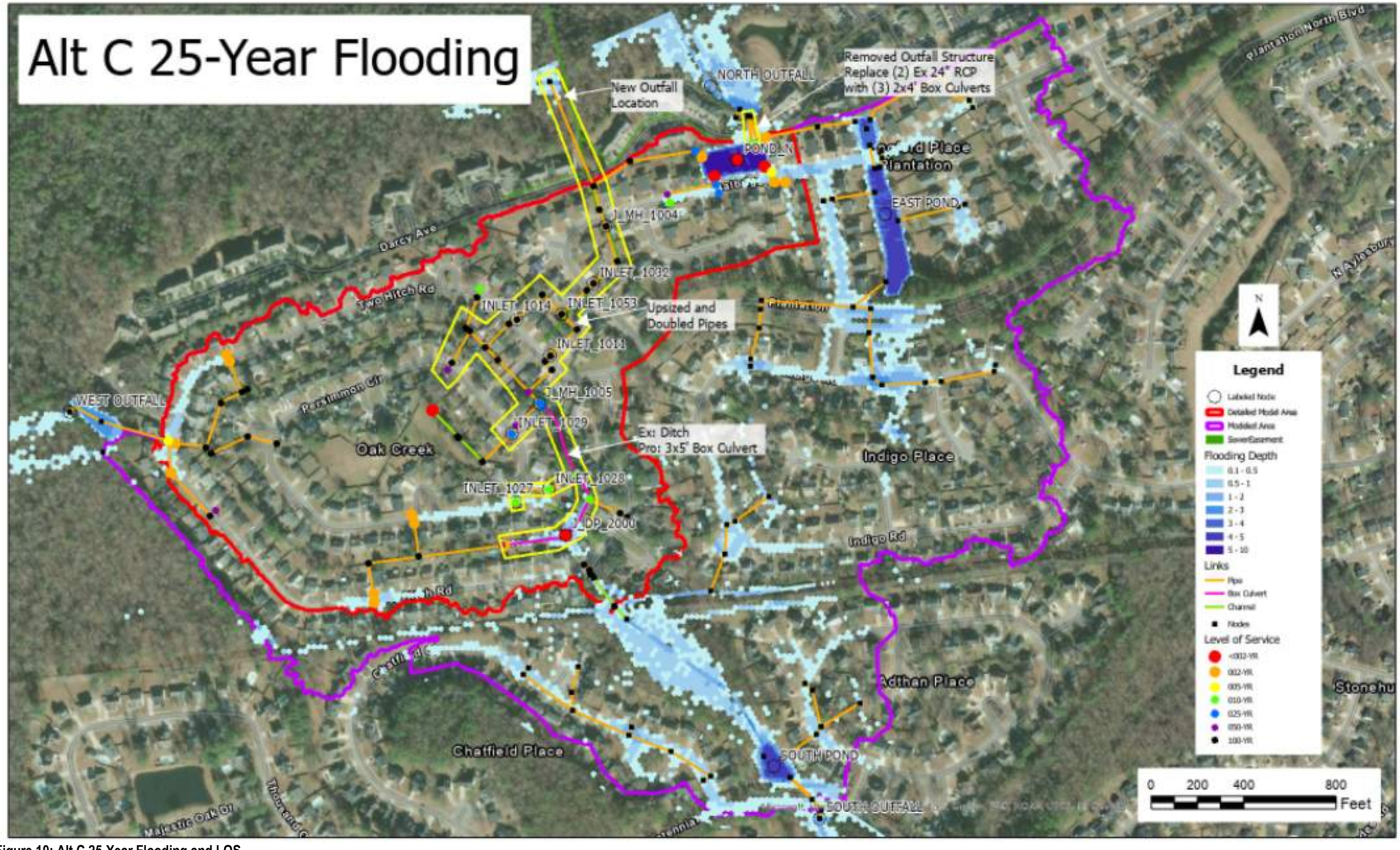


Figure 10: Alt C 25-Year Flooding and LOS

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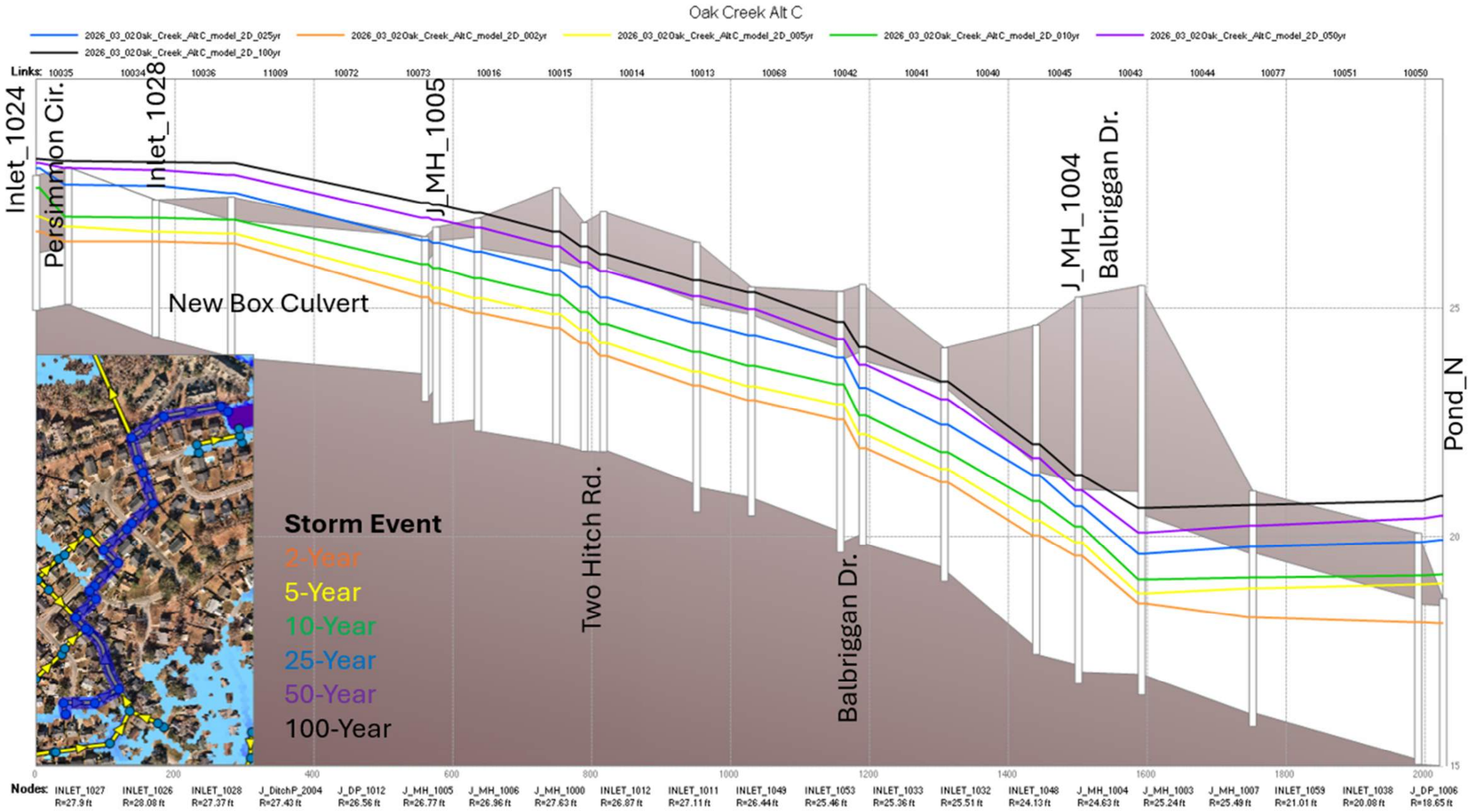


Figure 11: Oak Creek Alt C Profile

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Alternative D - Upgrades to South Outfall

Berkeley County was interested in exploring an option for redirecting some runoff south towards Crowfield Plantation. Immediately south of Oak Creek is a wooded/wetland area with a channel draining to an existing pond just north of Centennial Boulevard. This pond is labeled as "South Pond". Proposed upgrades included adding a new pipe connecting the backyard ditch between Persimmon Circle and Two Hitch Road and connecting it to the existing stormwater system on Two Hitch Road that currently discharges south as shown in Figure 12. Adding a pipe in this location would require an additional easement and permission to place the pipe between two existing homes. There is also very little fall between the existing pipe invert elevations and the existing elevation of the ditch.

The channel through the woods draining to the South Pond in Crowfield is very flat. In order to create enough fall to allow the lowered pipe system to send additional runoff in this direction, the existing channel in the woods will need to be deepened between the existing pond and the existing pipe outfall from Oak Creek. Then the existing pipe system under Two Hitch Road will need to be upsized and lowered. In addition, the ditch in the back yards will need minor regrading to the proposed pipe.

The results from these upgrades are shown in **Figure 12** and **Table 5**. The profile shown in **Figure 13** is shown for comparison of flooding to the other alternatives. It shows some reduction in peak stages but does not improve the LOS in the main stormwater system. There is still significant flooding in most of the same areas of Oak Creek. Therefore, this was not seen as an effective solution to reduce flooding.

Table 5: Alt D Peak Stages and LOS

Location	Name	Existing Peak Stage (ft)						LOS
		002-YR	005-YR	010-YR	025-YR	050-YR	100-YR	
Ditch	J_DP_2000	27.45	27.86	28.14	28.36	28.52	28.62	<002-YR
Ditch	INLET_1028	27.63	27.89	28.12	28.28	28.37	28.46	<002-YR
Persimmon Cir	INLET_1027	27.89	27.95	28.13	28.29	28.38	28.47	002-YR
Persimmon Cir	INLET_1029	27.34	27.82	28.11	28.26	28.35	28.44	<002-YR
Backyards	J_MH_1005	27.22	27.65	28	28.27	28.39	28.52	<002-YR
Two Hitch Rd	INLET_1011	26.14	26.73	27.07	27.36	27.73	28.04	010-YR
Two Hitch Rd	INLET_1014	26.09	27.04	27.79	28.03	28.18	28.32	010-YR
Backyards	INLET_1053	25.31	26.02	26.49	27.04	27.78	28.18	002-YR
Balbriggan Dr.	INLET_1032	24.34	25.05	25.73	26.17	26.75	27.11	005-YR
Balbriggan Dr.	J_MH_1004	22.63	23.33	24.01	24.26	24.4	24.48	100-YR
Ex Pond	Pond_N	22.22	22.22	22.22	22.22	22.22	22.22	<002-YR

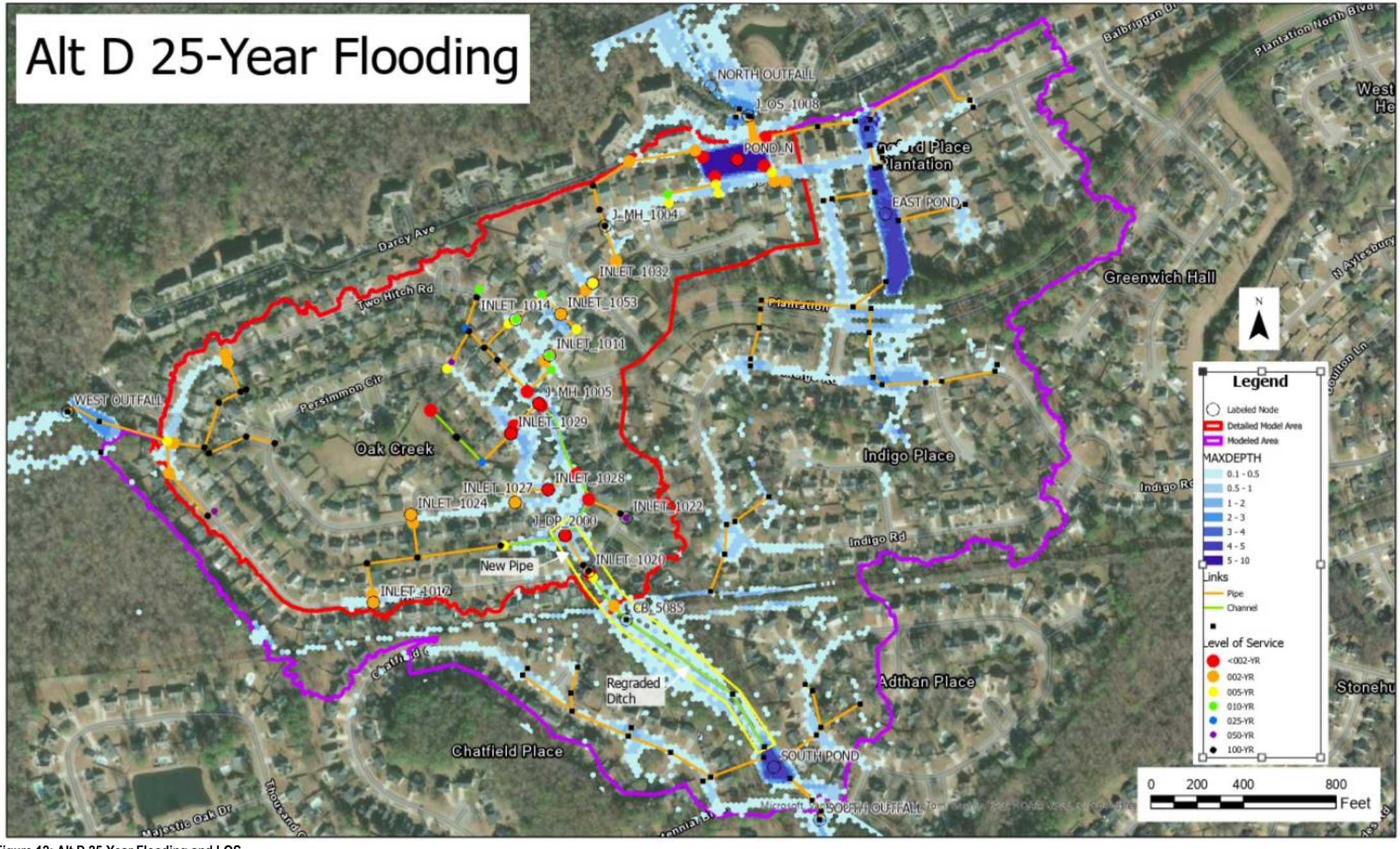


Figure 12: Alt D 25-Year Flooding and LOS

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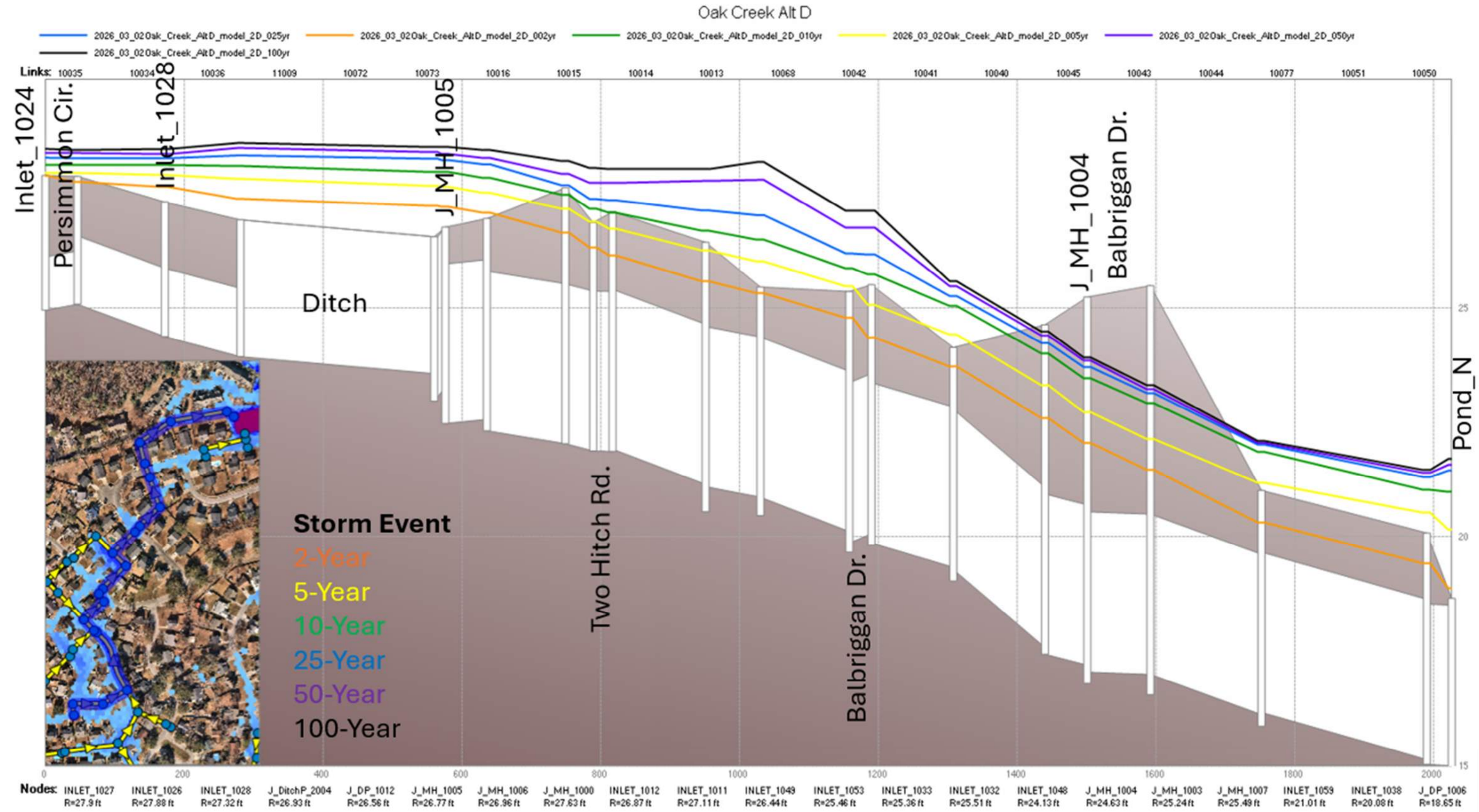


Figure 13: Alt D Profile

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Alternative E - Upgrades to South Outfall and Doubled and/or Upgraded Pipes

Alternative E (Alt E) combines both Alt A and Alt D to see if upgrading the main system and the outfall to the south together would be beneficial. **Figure 14** outlines these areas but reference those sections for more specific discussion on the included upgrades. **Figure 15** shows the same storm pipe profile as the previous alternatives for comparison. **Table 6** shows the peak stages and LOS of this alternative. Note that a new easement would be needed for the pipe in Alt D and the potential sewer and stormwater conflicts discussed in Alt A are still present for this alternative.

This alternative does provide cumulative benefits for multiple areas, with the new outfall to the south alleviating flooding for the homes in the southeast portion of the Oak Creek neighborhood. The LOS of the existing ditch at J_DP_2000 is increased from a 2-year LOS to a 5-year LOS, but the improvements are limited in the area. A cost-benefit analysis would be an important consideration for this alternative.

Table 6: Alt E Peak Stages and LOS

Location	Name	Existing Peak Stage (ft)						LOS
		002-YR	005-YR	010-YR	025-YR	050-YR	100-YR	
Ditch	J_DP_2000	26.67	26.88	27.19	27.71	28	28.28	005-YR
Ditch	INLET_1028	26.37	26.63	26.94	27.67	27.96	28.07	010-YR
Persimmon Cir	INLET_1027	26.6	27.07	27.69	28.03	28.13	28.22	010-YR
Persimmon Cir	INLET_1029	25.06	25.47	25.96	26.83	27.27	27.8	025-YR
Backyards	J_MH_1005	25.01	25.41	25.89	26.74	27.17	27.74	025-YR
Two Hitch Rd	INLET_1011	23.88	24.21	24.63	25.78	26.41	26.85	100-YR
Two Hitch Rd	INLET_1014	25.72	25.83	26.01	26.33	27.29	27.92	100-YR
Backyards	INLET_1053	22.89	23.24	23.76	25.19	25.9	26.23	025-YR
Balbriggan Dr.	INLET_1032	21.86	22.19	22.93	24.44	25.15	25.51	050-YR
Balbriggan Dr.	J_MH_1004	20.16	20.82	21.9	23.16	23.81	24.09	100-YR
Ex Pond	Pond_N	22.16	22.16	22.16	22.16	22.16	22.16	<002-YR

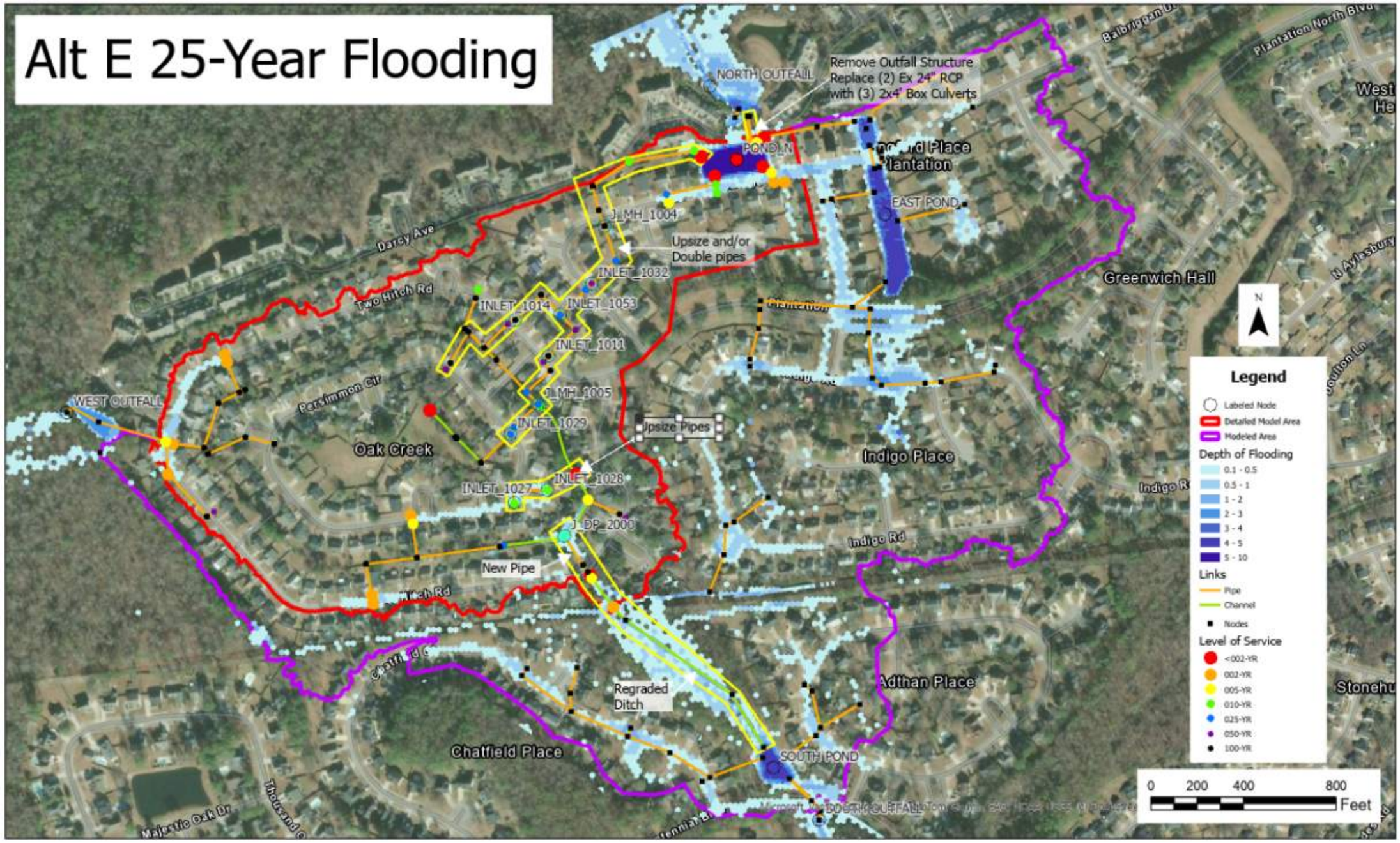


Figure 14: Alt E 25-Year Flooding and LOS

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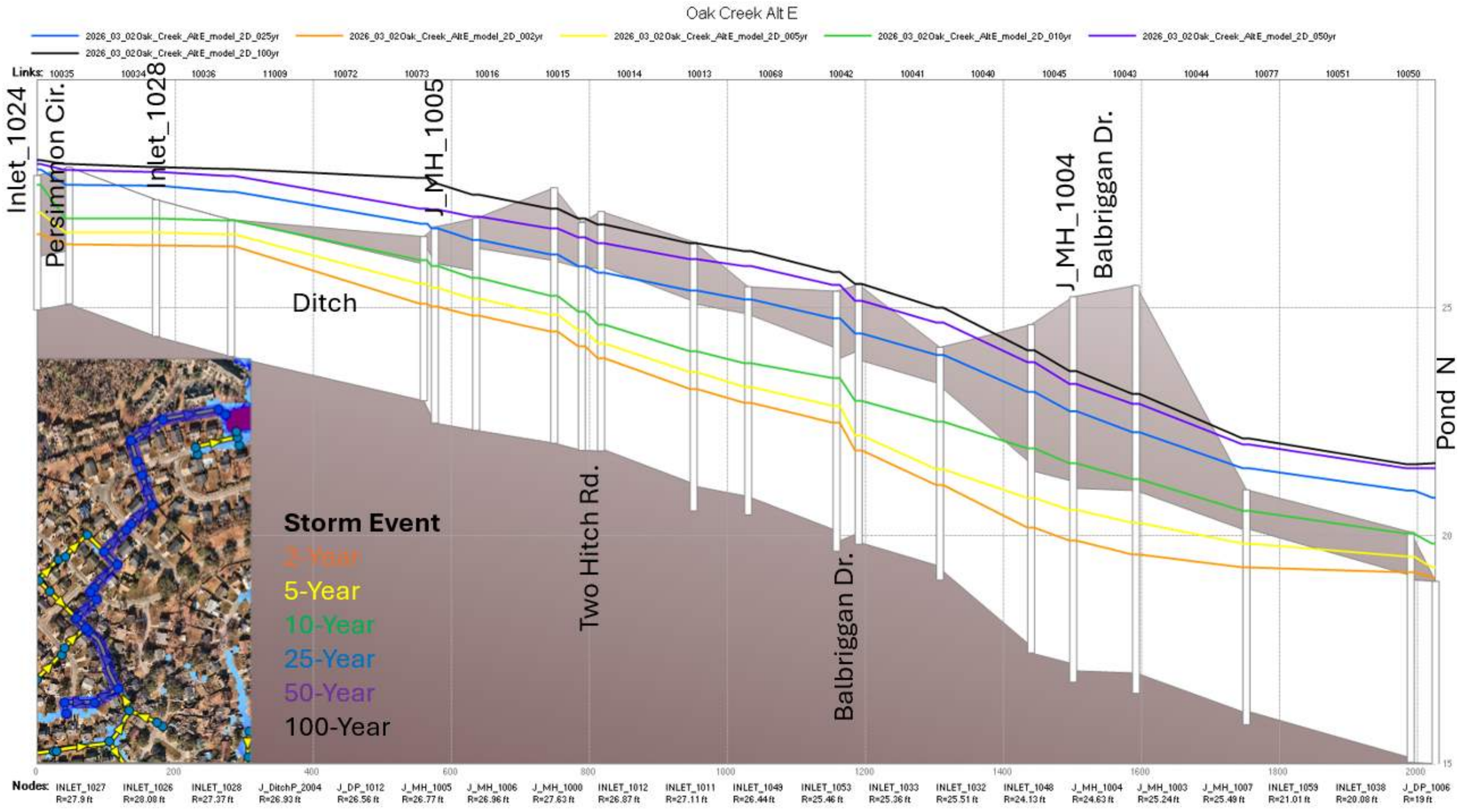


Figure 15: Alt E Profile

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Recommendation

The resulting LOS for each alternative was compared to existing conditions in **Table 7**. Since the goal of the project was to achieve a LOS of at least a 25-year storm event, only cells that did not achieve a 25-Year LOS are colored. The coloring scheme matches the rest of the report with less than a 2-year event as red, 2-year as orange, 5-year as yellow and 10-year as green. **Table 8** attempts to summarize the challenges or concerns of each alternative that the County should consider when evaluating each alternative for feasibility. This table may not include all obstacles or concerns that may arise, but they are a starting point for evaluating the best alternative. **Figure 16** shows the same pipe system shown in each alternative section but compares the 25-year storm event for each alternative to existing conditions. This provides a more visual comparison of the peak flooding stages of each alternative. **Figure 17** shows the 25-year profile of the ditch between Persimmon Circle and Two Hitch Road where some of the most significant flooding occurs, particularly flooding that appears to impact homes. Although no option keeps all stormwater inside the ditch, several options do significantly reduce the depth of flooding during large storm events.

Table 7: Alternative LOS Comparison

Location	Name	LOS					
		EX	Alt A	Alt B	Alt C	Alt D	Alt E
Ditch	J_DP_2000	<002-YR	002-YR	<002-YR	<002-YR	<002-YR	005-YR
Ditch	INLET_1028	<002-YR	010-YR	005-YR	010-YR	<002-YR	010-YR
Persimmon Cir	INLET_1027	<002-YR	010-YR	005-YR	010-YR	002-YR	010-YR
Persimmon Cir	INLET_1029	<002-YR	010-YR	025-YR	025-YR	<002-YR	025-YR
Backyards	J_MH_1005	<002-YR	010-YR	050-YR	025-YR	<002-YR	025-YR
Two Hitch Rd	INLET_1011	005-YR	100-YR	100-YR	100-YR	010-YR	100-YR
Two Hitch Rd	INLET_1014	010-YR	100-YR	100-YR	100-YR	010-YR	100-YR
Backyards	INLET_1053	<002-YR	050-YR	100-YR	100-YR	002-YR	025-YR
Balbriggan Dr.	INLET_1032	005-YR	050-YR	100-YR	100-YR	005-YR	050-YR
Balbriggan Dr.	J_MH_1004	100-YR	100-YR	100-YR	100-YR	100-YR	100-YR
Ex Pond	Pond_N	<002-YR	<002-YR	<002-YR	<002-YR	<002-YR	<002-YR

Table 8: Alternate Challenge Summary

Concern	Alt A	Alt B	Alt C	Alt D	Alt E
New easements needed?	No	Yes	Yes	Yes	Yes
Storm/Sewer potential conflicts?	Yes	No	Yes	No	Yes
Deep trench depths needed?	No	Yes	No	No	No
New outfall coordination needed?	No	Town of Goose Creek	Town of Goose Creek **or** Persimmons Hill HOA	Additional Flow to Crowfield Plantation	Additional Flow to Crowfield Plantation
General improvement level?	Good	Good	Good	Minimal	Good

Alternatives A, B, C, and E all provide significant improvement in flooding in the area of concern. Alt D provided minimal improvements but may be worth exploring if completed in conjunction with another alternative. Alt B provides the largest overall benefit by bringing most of the flooding areas

to a 25-year LOS; however, installation of Alt B requires very deep trenches between existing buildings, which makes this alternative impractical.

Alt A, C, and E are the most reasonable alternatives remaining. Based on the profiles in **Figure 16** and **Figure 17**, it appears that these three alternatives reduce the flooding to less than one (1) foot in most areas in and around the southeast corners of Persimmon Circle and Two Hitch Road during the 25-year storm event. Alt C requires a new outfall near the existing sewer easement. This option will need to be very carefully designed to ensure no storm/sewer conflicts and permission from either the Town of Goose Creek or Persimmon Hill HOA will be required. It will also require upgrading many other pipes between and behind yards with limited space.

The only difference between Alt A and Alt E is the new pipe connecting the ditch to the outfall to the south with additional flow that will need to be coordinated with Crowfield Plantation. A new easement will also be needed for the proposed pipe to connect the backyard ditch to the existing outfall to south. While Alt E did provide slightly reduced flooding compared to Alt A, it comes with the additional need of the extra easement and coordination with Crowfield Plantation. The County will need to decide if it is worth the additional hardship and cost to incorporate the upgrades to the south.

Based on discussions with the County, the results and findings from the H&H modeling analysis, and anticipated challenges and benefits, the alternatives were ranked in order of recommendation as shown in **Table 9** below.

Table 9: Recommended Alternative

Recommended Alternative Order		Description
1	Alt A	Double and/or Upgrade Existing Pipes
2	Alt E	Upgrades to South Outfall and Doubled and/or Upgraded Pipes
3	Alt C	New Outfall by Gas Pipeline and Double and/or Upgraded Pipes
4	Alt B	New Outfall to North with Double and/or Upgraded Pipes
5	Alt D	Upgrades to South Outfall

A concept level cost estimate was prepared for the recommended Alternative A solution. The estimated total construction cost is $3,825,000. This cost does not include the design, permitting, easement acquisition, or utility coordination. A detailed break-down of this cost estimate can be found at the end of this report. Additional investigations should be completed before a design is finalized and the cost estimate revised accordingly.

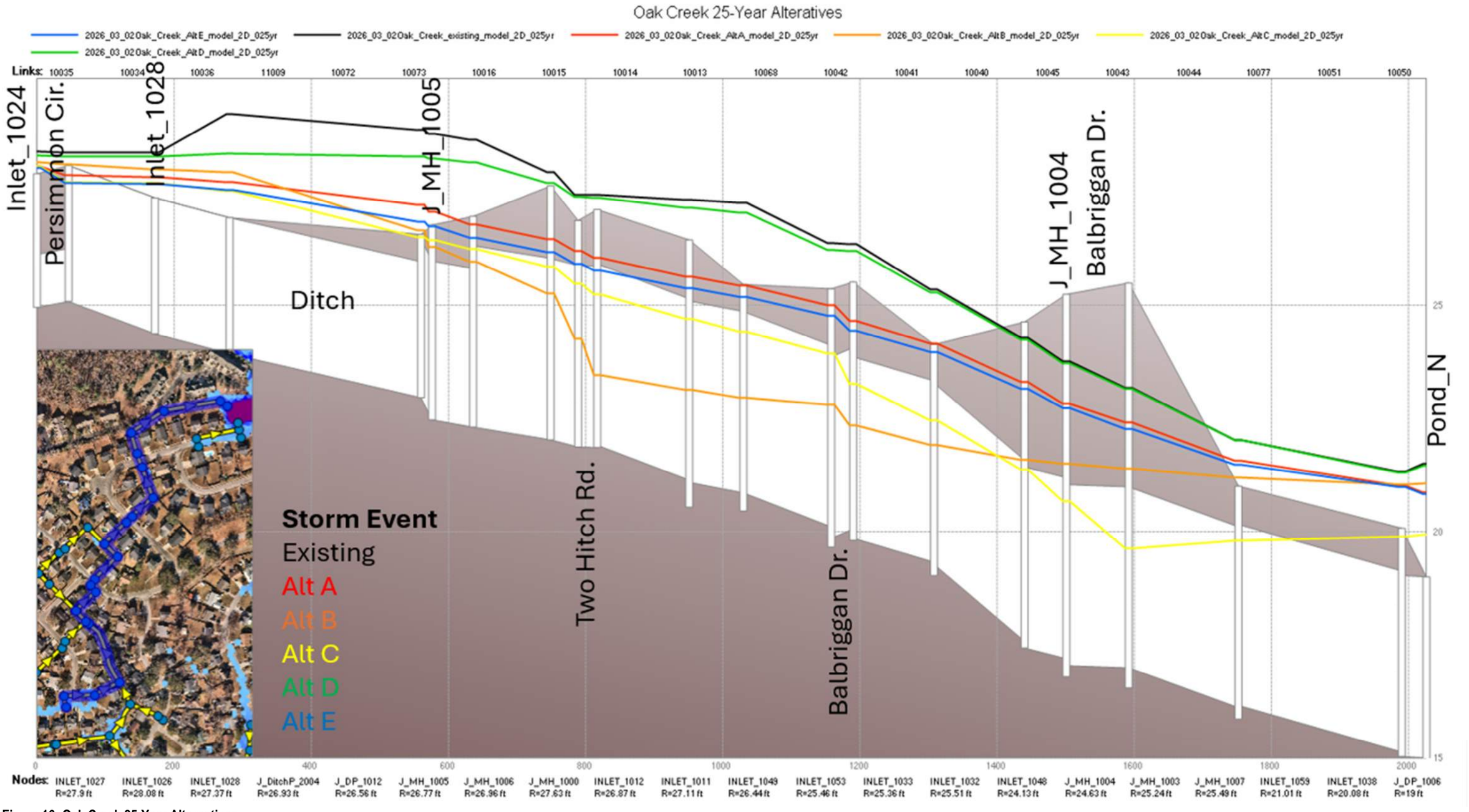


Figure 16: Oak Creek 25-Year Alternatives

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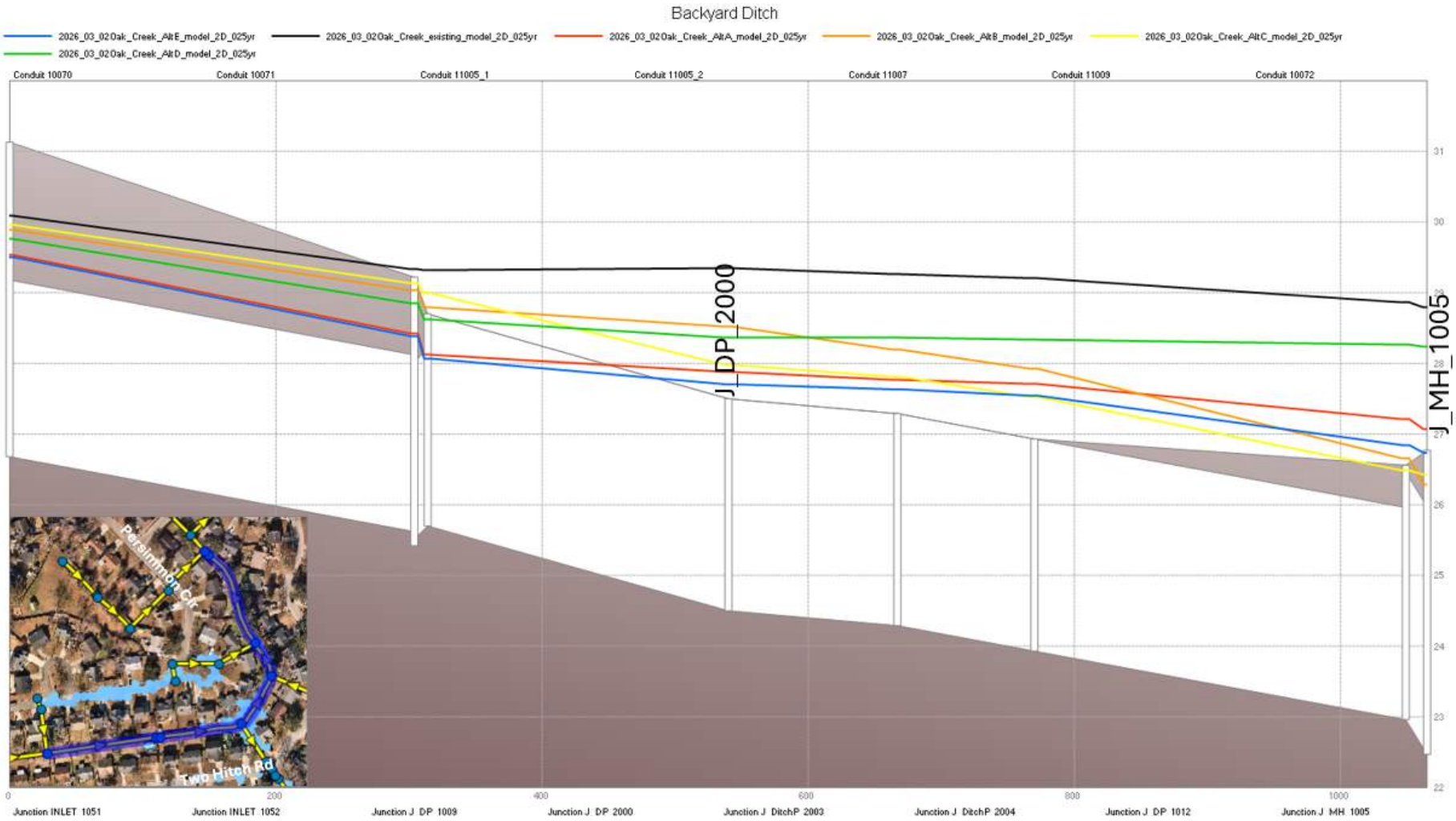
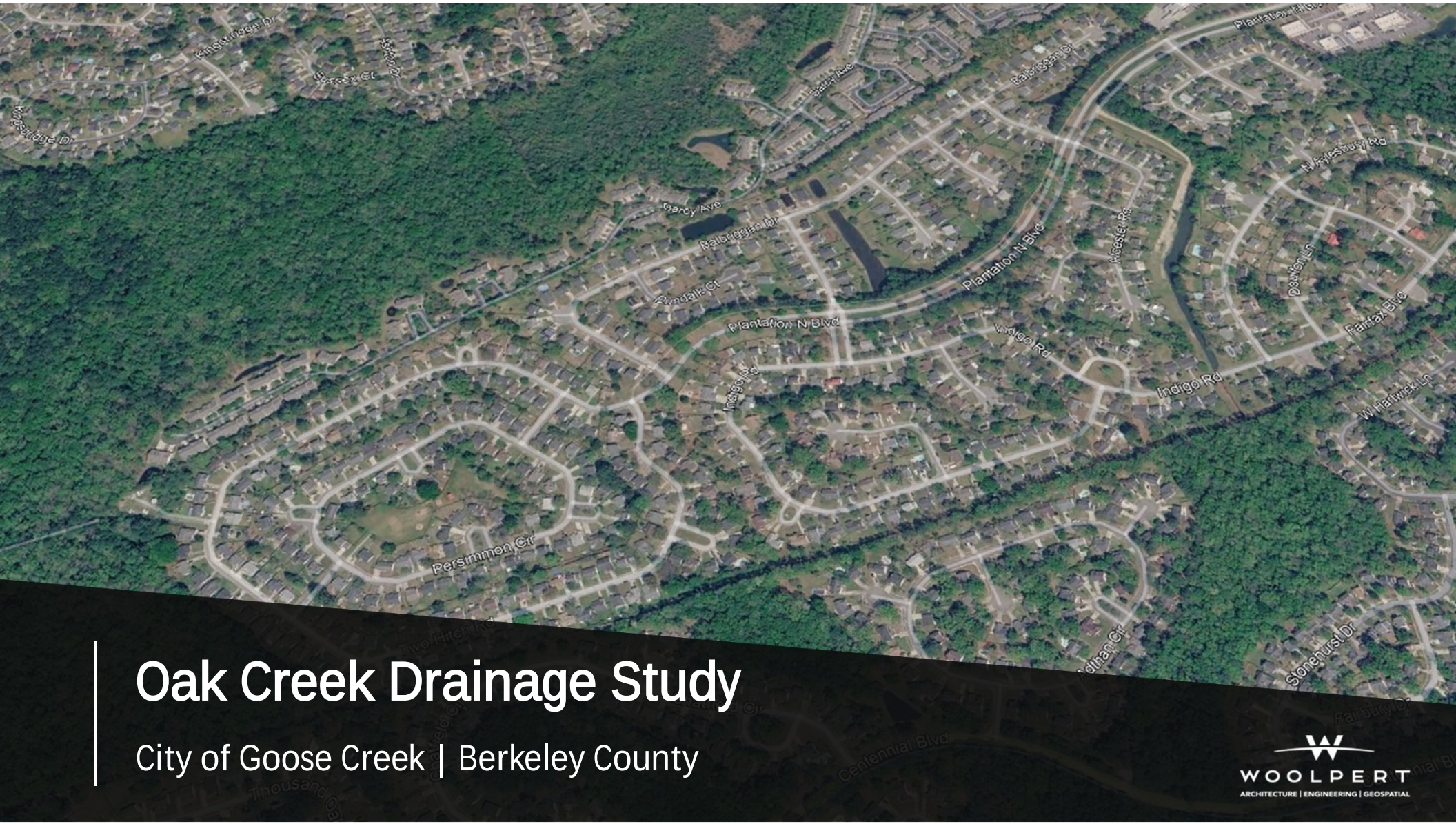


Figure 17: Backyard Ditch Profile

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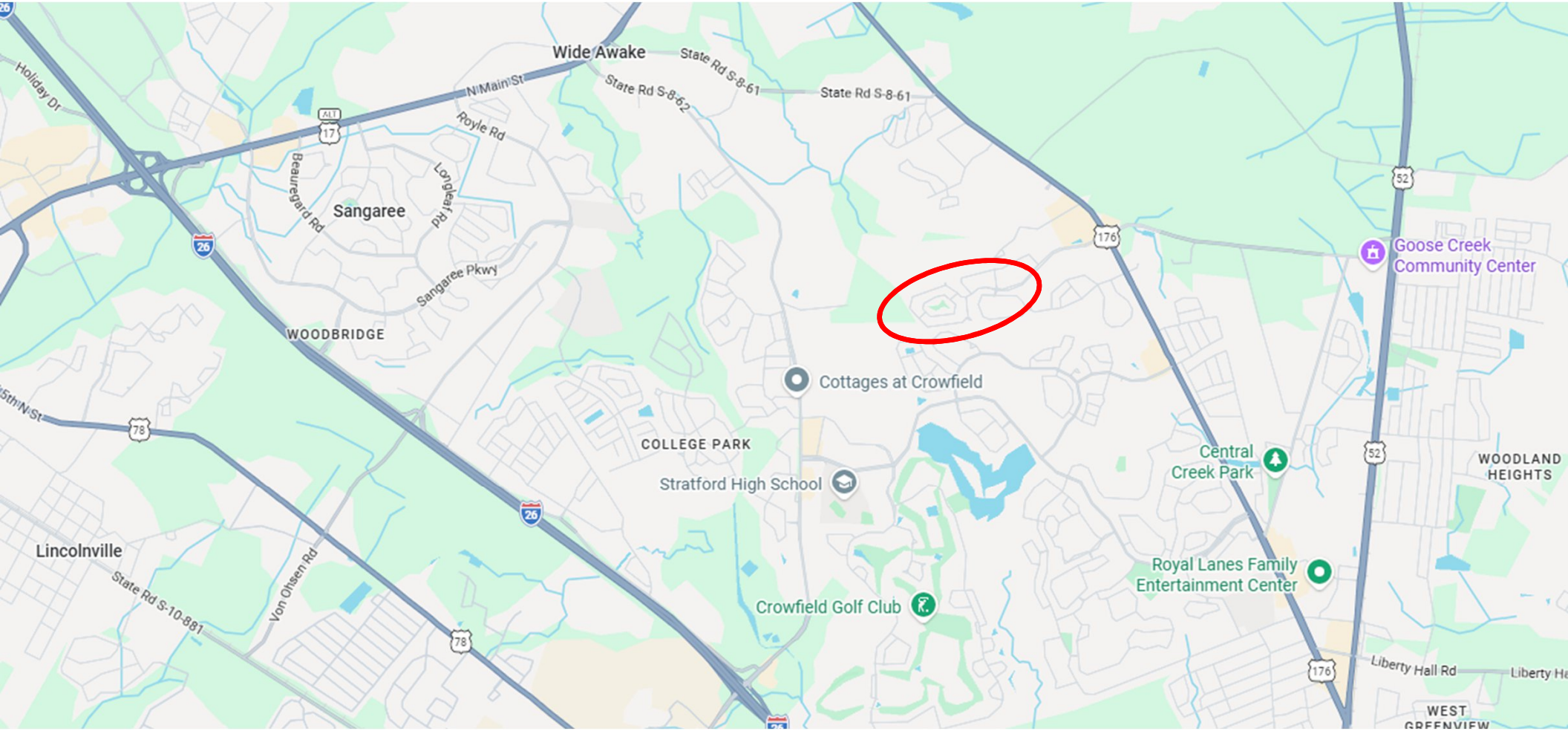


Oak Creek Drainage Study

City of Goose Creek | Berkeley County

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Oak Creek Neighborhood



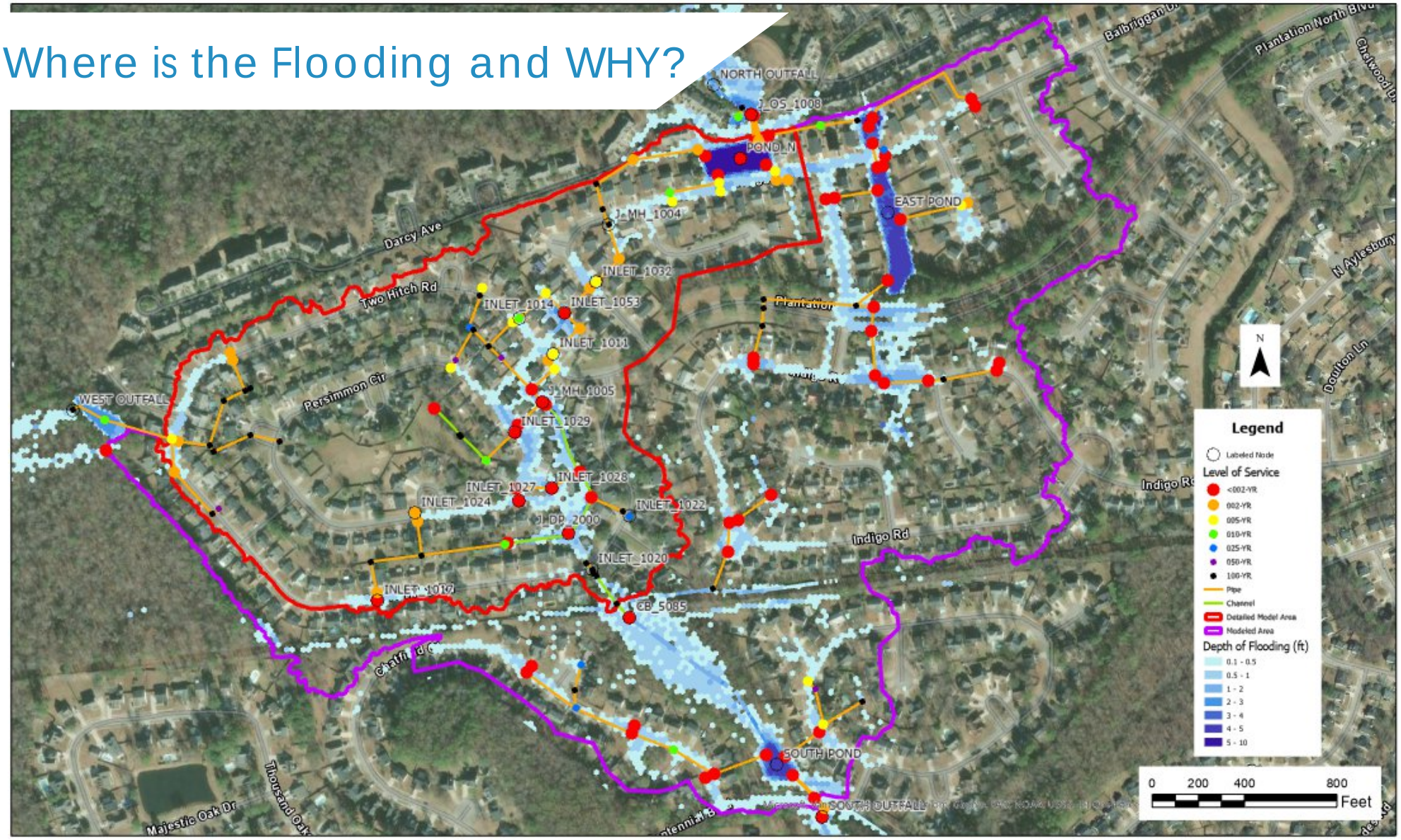
Why Oak Creek & Longford Place?

- Dozens of Resident Complaints since 2021
- Two Flooding Complaints (2023 and 2025) Pictured
- BC Completed 60 Service requests since 2021
  - Sinkhole repair
  - Clean/Repair Ditches
  - Repair Box Tops
  - Vac Basins
  - Jet Pipes
  - Street Sweeping
  - Install New Drain

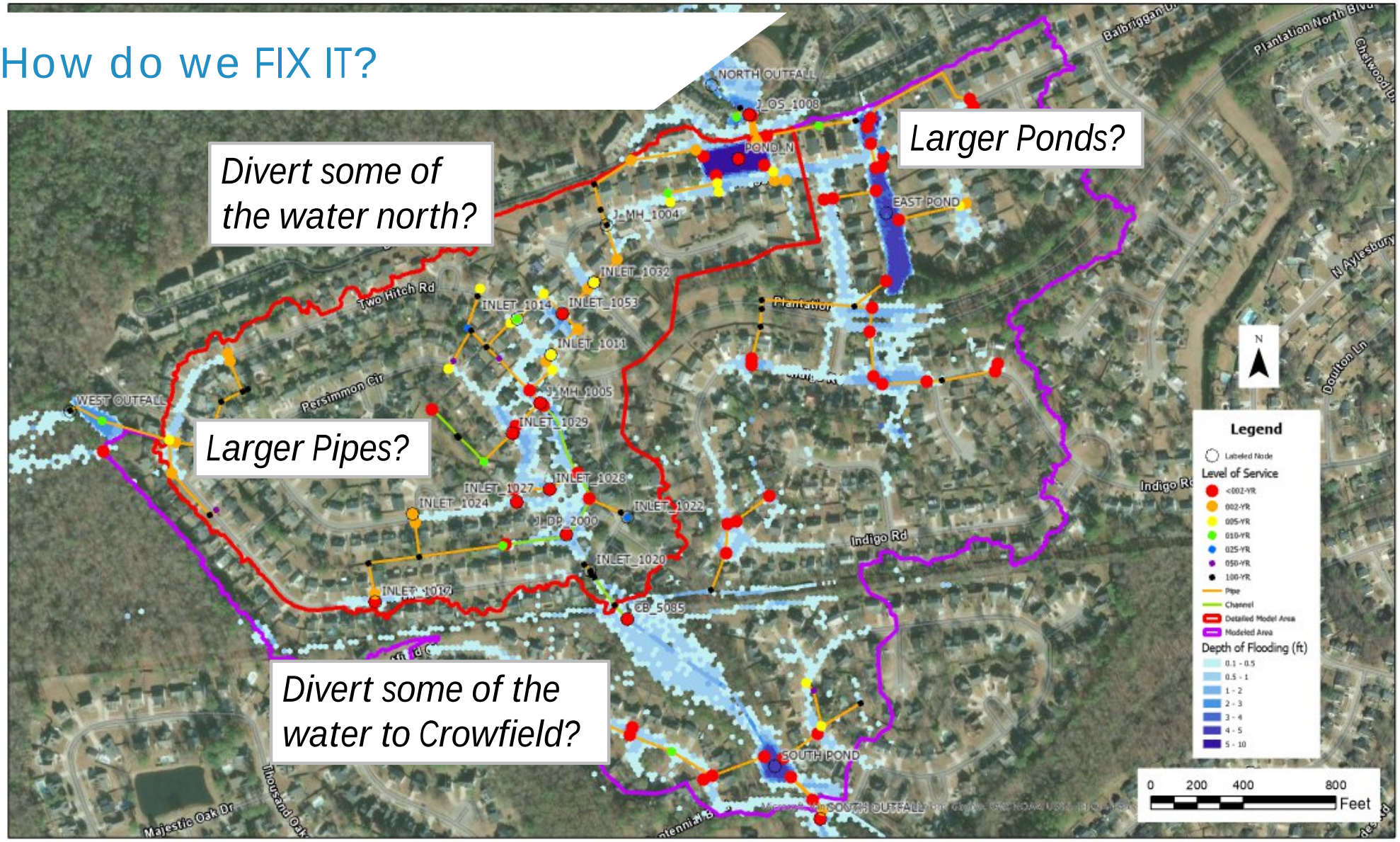




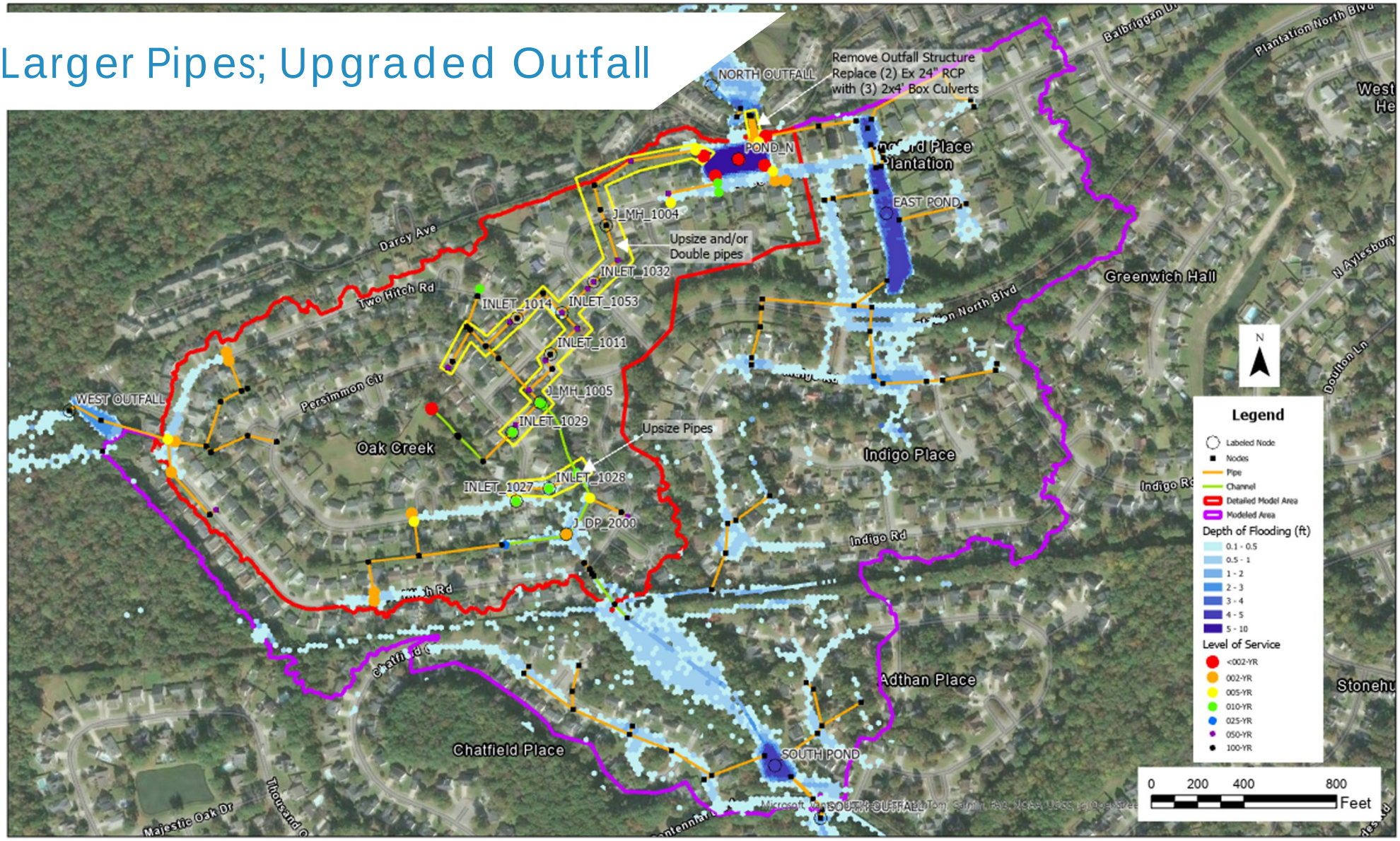
Where is the Flooding and WHY?



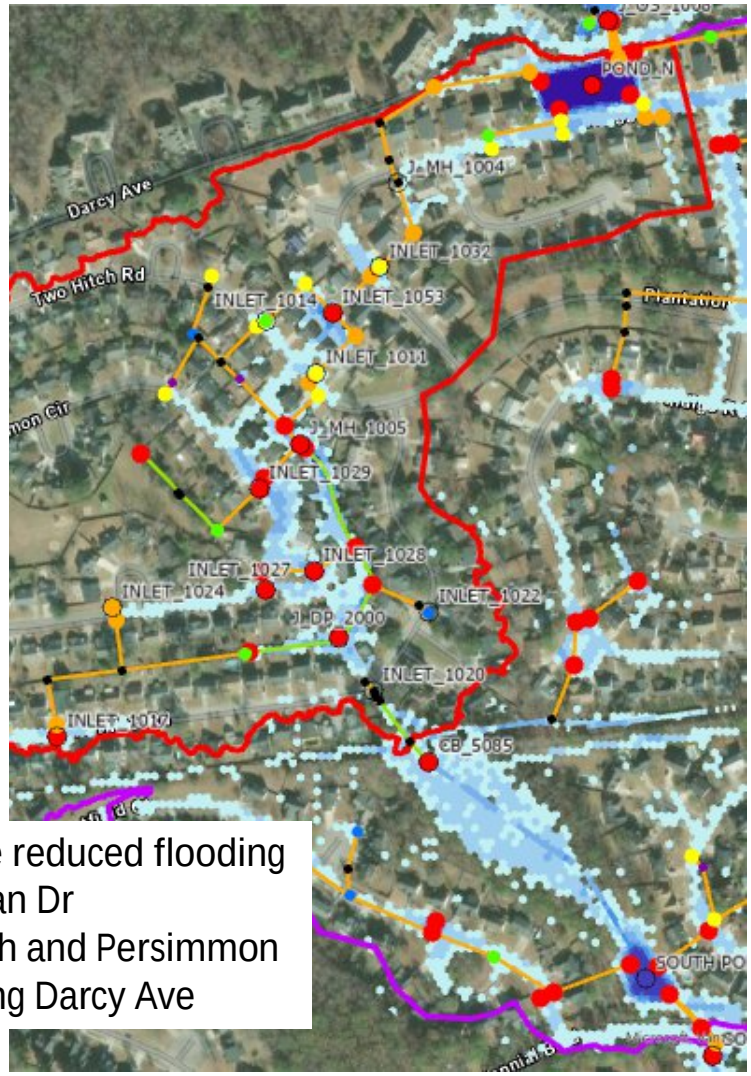
How do we FIX IT?

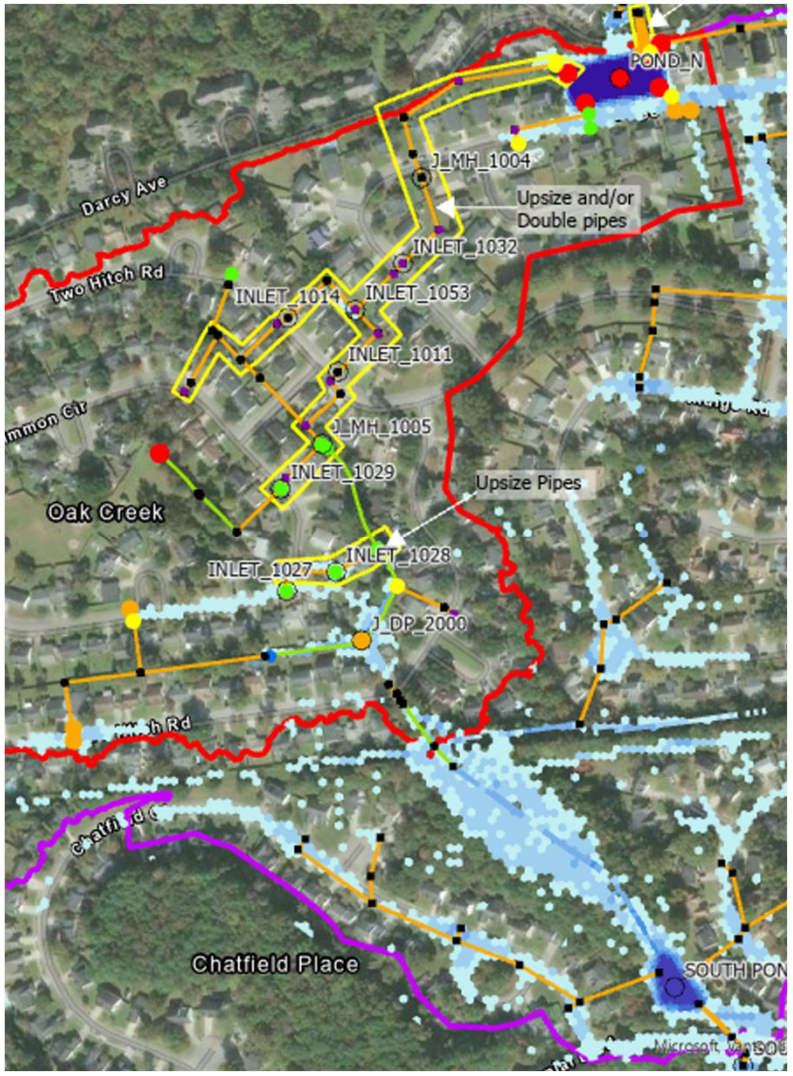


Larger Pipes; Upgraded Outfall



Who will it impact?





The Impacts: 97 homes have reduced flooding

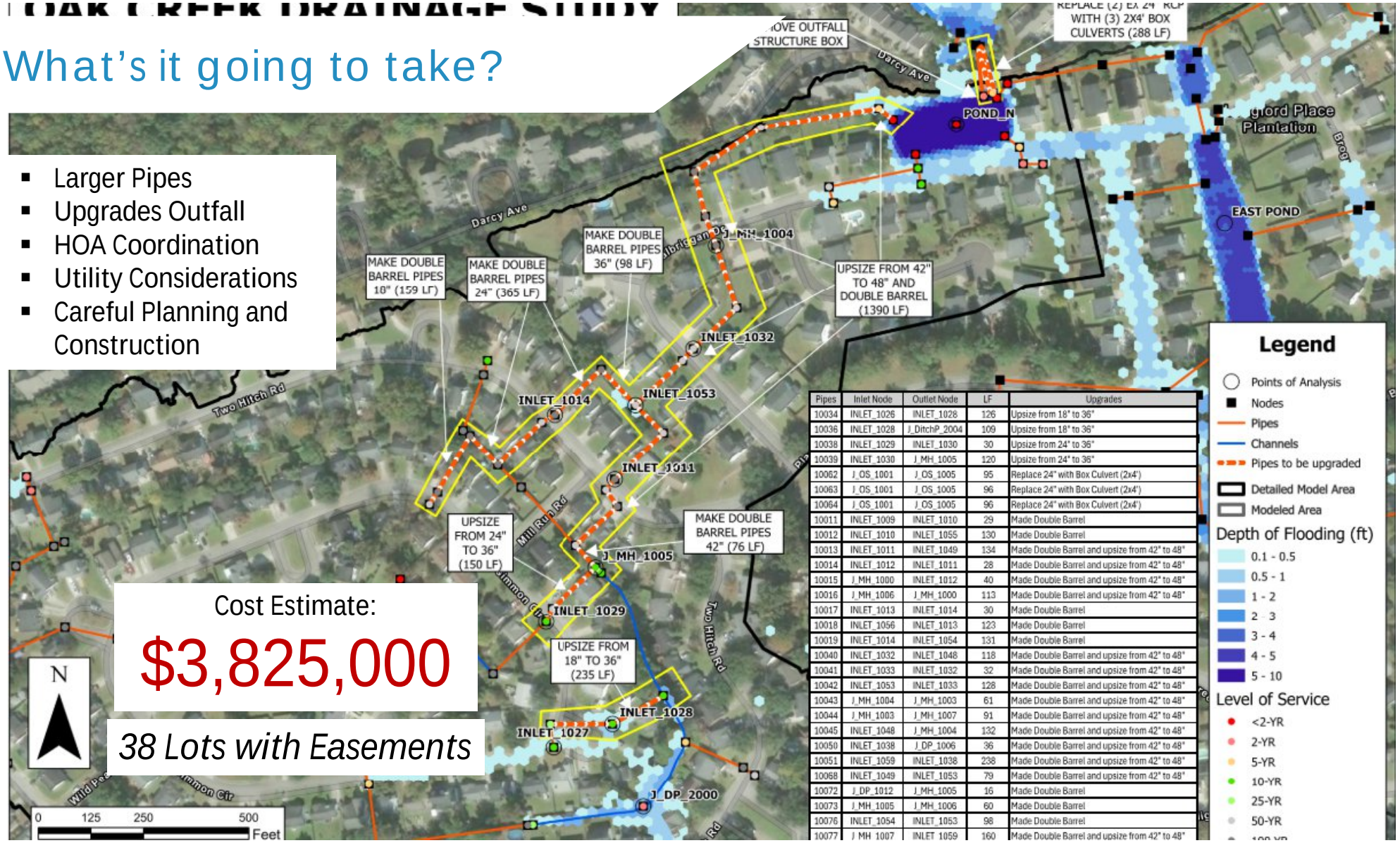
- 16 homes along Balbriggan Dr
- 48 homes along Two Hitch and Persimmon
- 6 Multifamily Homes along Darcy Ave

What’s it going to take?



What's it going to take?

- Larger Pipes
- Upgrades Outfall
- HOA Coordination
- Utility Considerations
- Careful Planning and Construction



Pipes	Inlet Node	Outlet Node	LF	Upgrades
10034	INLET_1026	INLET_1028	126	Upsize from 18" to 36"
10036	INLET_1028	J_DitchP_2004	109	Upsize from 18" to 36"
10038	INLET_1029	INLET_1030	30	Upsize from 24" to 36"
10039	INLET_1030	J_MH_1005	120	Upsize from 24" to 36"
10062	J_OS_1001	J_OS_1005	95	Replace 24" with Box Culvert (2x4')
10063	J_OS_1001	J_OS_1005	96	Replace 24" with Box Culvert (2x4')
10064	J_OS_1001	J_OS_1005	96	Replace 24" with Box Culvert (2x4')
10011	INLET_1009	INLET_1010	29	Made Double Barrel
10012	INLET_1010	INLET_1055	130	Made Double Barrel
10013	INLET_1011	INLET_1049	134	Made Double Barrel and upsize from 42" to 48"
10014	INLET_1012	INLET_1011	28	Made Double Barrel and upsize from 42" to 48"
10015	J_MH_1000	INLET_1012	40	Made Double Barrel and upsize from 42" to 48"
10016	J_MH_1006	J_MH_1000	113	Made Double Barrel and upsize from 42" to 48"
10017	INLET_1013	INLET_1014	30	Made Double Barrel
10018	INLET_1056	INLET_1013	123	Made Double Barrel
10019	INLET_1014	INLET_1054	131	Made Double Barrel
10040	INLET_1032	INLET_1048	118	Made Double Barrel and upsize from 42" to 48"
10041	INLET_1033	INLET_1032	32	Made Double Barrel and upsize from 42" to 48"
10042	INLET_1053	INLET_1033	128	Made Double Barrel and upsize from 42" to 48"
10043	J_MH_1004	J_MH_1003	61	Made Double Barrel and upsize from 42" to 48"
10044	J_MH_1003	J_MH_1007	91	Made Double Barrel and upsize from 42" to 48"
10045	INLET_1048	J_MH_1004	132	Made Double Barrel and upsize from 42" to 48"
10050	INLET_1038	J_DP_1006	36	Made Double Barrel and upsize from 42" to 48"
10051	INLET_1059	INLET_1038	238	Made Double Barrel and upsize from 42" to 48"
10068	INLET_1049	INLET_1053	79	Made Double Barrel and upsize from 42" to 48"
10072	J_DP_1012	J_MH_1005	16	Made Double Barrel
10073	J_MH_1005	J_MH_1006	60	Made Double Barrel
10076	INLET_1054	INLET_1053	98	Made Double Barrel
10077	J_MH_1007	INLET_1059	160	Made Double Barrel and upsize from 42" to 48"

Legend

- Points of Analysis
- Nodes
- Pipes
- Channels
- Pipes to be upgraded
- Detailed Model Area
- Modeled Area

Depth of Flooding (ft)

- 0.1 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 10

Level of Service

- <2-YR
- 2-YR
- 5-YR
- 10-YR
- 25-YR
- 50-YR

STATE-FUNDED MITIGATION GRANT PROGRAM

The South Carolina Office of Resilience (SCOR) is pleased to announce the State-Funded Mitigation Program, a grant opportunity supporting projects that reduce current and future risks to South Carolina communities, residents, property, and infrastructure.



FALL 2026 SRF CALL FOR PROJECTS

SOUTH CAROLINA SRF
RIA & DES • STATE REVOLVING FUND

The State Revolving Fund (SRF) Program has an open call for Clean Water (CW) and Drinking Water (DW) projects for Federal Fiscal Year (FFY) 2026. Applications will be accepted for CW and DW loan projects in addition to specialized funding for Emerging Contaminants projects and Lead Service Line Replacement projects. This second call for projects is a result of EPA increasing emphasis on developing a project pipeline that prioritizes projects that are ready to go to construction. More funding is available for clean water loan projects. Details for each and how to apply are below.

Loan Program Information

- Estimated FFY2026 Loan Funding for CW and DW projects:
  - **$165 million** available for **CW projects**
  - **$70 million** available for **DW projects**

How are we going to pay for it?

Goose Creek generates approximately $100,000 annually in stormwater capital funds; $133,000 after fee increase
County: approximately $445,000; $592,000 after fee increase


Questions?
Plantation N Blvd
Indigo Rd
Persimmon Cir
Two Hitch Rd
Chatfield Cir
Centennial Blvd
Adrian Cir
Stonehurst Dr
Fairbury Dr
Fairfax Blvd
W Aylesbury Rd
W Hartwick Ln
Dawson Ln
Raleigh Dr
Derby Ave
Plantation Pl

Request for City Council Agenda Item

To: City Council

From: Gregory S. Habib, Mayor

Please check one box

☐ Regular Meeting ☐ Special Meeting

☐ Work Session

Please check one box, if applicable

☐ Ordinance ☐ Resolution ☐ Proclamation ☐ Request to Purchase

Ordinance/Resolution Title
DISCUSSION OF BMX TRACK
Background Summary
Financial Impact
Impact if denied
Impact if approved

Department Head: _____ *Signature & Date*

City Administrator: _____ *Signature & Date*

Request for City Council Agenda Item

To: MAYOR AND CITY COUNCIL

From: REAGAN OSBON, SPECIAL PROJECTS MANAGER

Please check one box

☐ Regular Meeting ☐ Special Meeting

☐ Work Session

Please check one box, if applicable

☑ Ordinance ☐ Resolution ☐ Proclamation ☐ Request to Purchase

Ordinance/Resolution Title

DISCUSSION OF POTENTIAL ANNEXATION OF UNADDRESSED PROPERTY LOCATED NEAR ASHTON DRIVE AND SUSSEX COURT (TMS # 234-00-00-079 / +/- 4.03 ACRES / UNADRESSED PROPERTY TRACT A2 OF ASHTON AT DEVON FOREST BERKELEY COUNTY, SOUTH CAROLINA)

Background Summary

The City-owned landlocked parcel is located near Ashton Drive and Sussex Court, and adjoins to the backside of the unincorporated Devon Forest Community. The City purchased the property in December of 2009. The surrounding unincorporated parcels are zoned as Berkeley County Single-Family Residential (R1) and have Goose Creek Future Land Use Map of Moderate Density or Conservation. The property is designated as Conservation by the Future Land Use Map.

The anticipated fire fee to Berkeley County is $1,530.00.

Financial Impact

Anticipated Fire Fee: $1,530.00

Impact if denied

Impact if approved

Department Head: City Administrator:

_____ _____

Signature & Date *Signature & Date*

CITY COUNCIL

December 8, 2026, at 6:00 PM
City of Goose Creek Municipal Court, 519 N. Goose Creek Blvd.

Annexation/Zoning Map Amendment
Unaddressed Property Near Ashton Drive and Sussex Court
(TMS # 234-00-00-079)

Tax Map:	234-00-00-079
Proposal:	Annex and assign zoning from Berkeley County Single-Family Residential (R-1) to Goose Creek Conservation (C)
Applicant:	City of Goose Creek
Acreage:	+/- 4.03 acres
Current Use:	Undeveloped, Primarily Wetlands
Proposed Use:	Conservation
Land Use Classification:	Conservation and Open Space
Current Zoning:	Berkeley County Single-Family Residential (R-1)
Proposed Zoning:	Goose Creek Conservation (C)
Anticipated Fire Fee:	$1,530
Staff Recommendation:	Approval

PLANS, POLICIES, AND LAND USE

The City of Goose Creek Comprehensive Plan (February 13, 2024) has the subject parcel designated as Conservation and Open Space. Adjacent properties are zoned Berkeley County Single-Family Residential (R-1) or Goose Creek Conservation.

ZONING DISTRICT SUMMARY

A vicinity zoning map is provided in the packet. This landlocked parcel is located near Ashton Drive and Sussex Court, near the back of the Devon Forest neighborhood. The purpose of the Conservation (C) District is to provide land that is undeveloped or developed at a very low density and to conserve land.

STAFF RECOMMENDATION

Staff recommends approval.

ORDINANCE NO. 2027-XXX

AN ORDINANCE PURSUANT TO TITLE 5, CHAPTER 3, SECTION 5-3-150, SUBSECTION 3, OF THE CODE OF LAWS OF SOUTH CAROLINA, 1976, AS AMENDED, TO ANNEX THE AREA IDENTIFIED AS TMS 234-00-00-079, UNNADRESSED PARCEL LOCATED NEAR SUSSEX COURT AND ASHTON DRIVE, INTO THE CITY OF GOOSE CREEK, A SOUTH CAROLINA MUNICIPAL CORPORATION AND TO ASSIGN A ZONING OF CONSERVATION (C)

WHEREAS, the City of Goose Creek, South Carolina (the "City") is a municipal corporation created under the laws of the State of South Carolina, that is duly empowered to extend its municipal boundaries through annexation; and

WHEREAS, a proper petition under Section 5-3-150(3) of the Code of Laws of South Carolina 1976, as amended (the "SC Code") has been filed with the City Council by each of the persons owning 100 percent of the property hereinafter described; and

WHEREAS, the petitioning owner is contiguous to the City's existing municipal boundary; and

WHEREAS, the City, consistent with Section 5-3—310 of the SC Code, may elect, at its sole option, to provide the service formerly provided by another jurisdiction within the annexed area by providing reasonable written notice that City elects to displace such provider; and

WHEREAS, upon the annexation of the property contemplated by this Ordinance, the City Council intends to provide and serve the annexed property with all available municipal services; and

WHEREAS, City Council believes that annexation of the property would be in the best interest of the City of Goose Creek; and

WHEREAS, following proper notice, and publication, the City's Planning Commission recommends that the property be assigned a zoning classification of Conservation (C).

TMS Number: 234-00-00-079

Property Description: ATTACHED "EXHIBIT A: LEGAL DESCRIPTION"

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the City of Goose Creek, South Carolina, this 12th day of January 2027, as follows:

1. The property herein described below are hereby annexed to and become a part of the City as of the date of enactment of this Ordinance:

In addition to the property, all public rights of way, streets, highways, and easements included in the territory hereby annexed are additionally annexed into the City.

2. Based on the recommendation of the City's Planning Commission, the Property shall be assigned a zoning classification of Conservation (C).

3. The City intends to provide all available municipal services to the Property. In keeping therewith, the City, acting through the Mayor or his assigns, shall be authorized to notify all necessary parties of the annexations authorized by this Ordinance and the City's intention to provide all applicable services to the Property. The Mayor or his assigns shall be further authorized to negotiate, execute and deliver any necessary agreement to memorialize the terms and provisions of any agreement contemplated by Section 5-3-311 of the SC Code in lieu of any plan to balance equities and interest under Section 5-3-312 of the SC Code. To the extent any funding is or will be committed under such agreement, and funds therefore are not otherwise budgeted in the City's then-existing budget, such funding commitment shall be subject to further approval and ratification by City Council, but should not otherwise affect or limit the terms of any agreement between the City and any displaced service provider.

4. If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held or determined to be invalid, such decision shall not affect the validity of the remaining portions of this Ordinance.

5. This ordinance shall become effective immediately upon enactment.

INTRODUCED the 8th of December, 2026.

DONE the _____day of _____, 2027.

_____

Mayor Gregory S. Habib

Attest:_____

Kelly J. Lovette, MMC, City Clerk

_____	_____
Mayor Pro Tem Jerry Tekac	Councilmember Debra Green-Fletcher
_____	_____
Councilmember Christopher Harmon	Councilmember Gayla S.L. McSwain
_____	_____
Councilmember Corey D. McClary	Councilmember Melissa Enos-Sims

00028749 Vol: 8266 Pg: 131

EXHIBIT "A"
(Legal Description)

ALL that certain piece, parcel or tract of land, situate, lying and being in the City of Goose Creek, Berkeley County, South Carolina, more particularly shown and designated as "PERSIMMON HILL INVESTORS, III TMS# 234-00-00-015", measuring and containing a total of 30.157 acres of highland, more or less, and 38.780 acres of wetlands, more or less, and shown on that certain plat entitled, "WETLANDS SURVEY TMS# 234-00-00-032 & 234-00-00-015 LANDS OF PERSIMMON HILL INVESTORS, III SHEET 1 OF 2 BERKELEY COUNTY S.C." prepared by Forsberg Engineering & Surveying, Inc., dated September 17, 1999, and recorded in the ROD Office for Berkeley County in Plat Cabinet P at page 39-E (the "Plat"). Said tract of land having such size, shape, buttings and boundings as will by reference to the Plat more fully appear.

SAVING AND EXCEPTING from the parcels described above, all that certain piece, parcel or tract of land, situate, lying and being in Berkeley County, South Carolina, more particularly shown and designated as "TRACT 1", measuring and containing 8.64 acres highland, more or less, and shown on that certain plat entitled, "PLAT SHOWING A PORTION OF TMS # 234-00-00-015 OWNED BY PERSIMMON HILL INVESTORS, III AND THE PROPOSED ABANDONMENT OF A PORTION OF THE COMMON LOT LINES OF "OAK CREEK SUBDIVISION" ABOUT TO BE ANNEXED INTO THE CITY OF GOOSE CREEK BERKELEY COUNTY, SOUTH CAROLINA" prepared by GPA Professional Land Surveyors, dated July 15, 2004, and recorded in the ROD Office for Berkeley County in Plat Cabinet Q at page 246-A, (the "Tract 1 Plat") bearing TMS# 234-00-00-150. Said tract of land having such size, shape, buttings and boundings as will by reference to the Tract 1 Plat more fully appear.

TMS #234-00-00-015

ALSO

ALL that certain piece, parcel or tract of land, situate, lying and being in Berkeley County, South Carolina, more particularly shown and designated as "5.298 AC. RECREATIONAL AREA FORMERLY PORTION OF TRACT A2", measuring and containing 5.298 acres, more or less, and shown on that certain plat entitled, "SURVEY OF TRACT A2 & RESIDUALS OF TRACT A1 (UNDEVELOPED PORTION) ASHTON AT DEVON FOREST BERKELEY COUNTY, SOUTH CAROLINA" prepared by Forsberg Engineering & Surveying, Inc., dated July 8, 1993, and recorded in the ROD Office for Berkeley County in Plat Cabinet K at page 77 (the "Recreational Area Plat"). Said tract of land having such size, shape, buttings and boundings as will by reference to the Recreational Area Plat more fully appear.

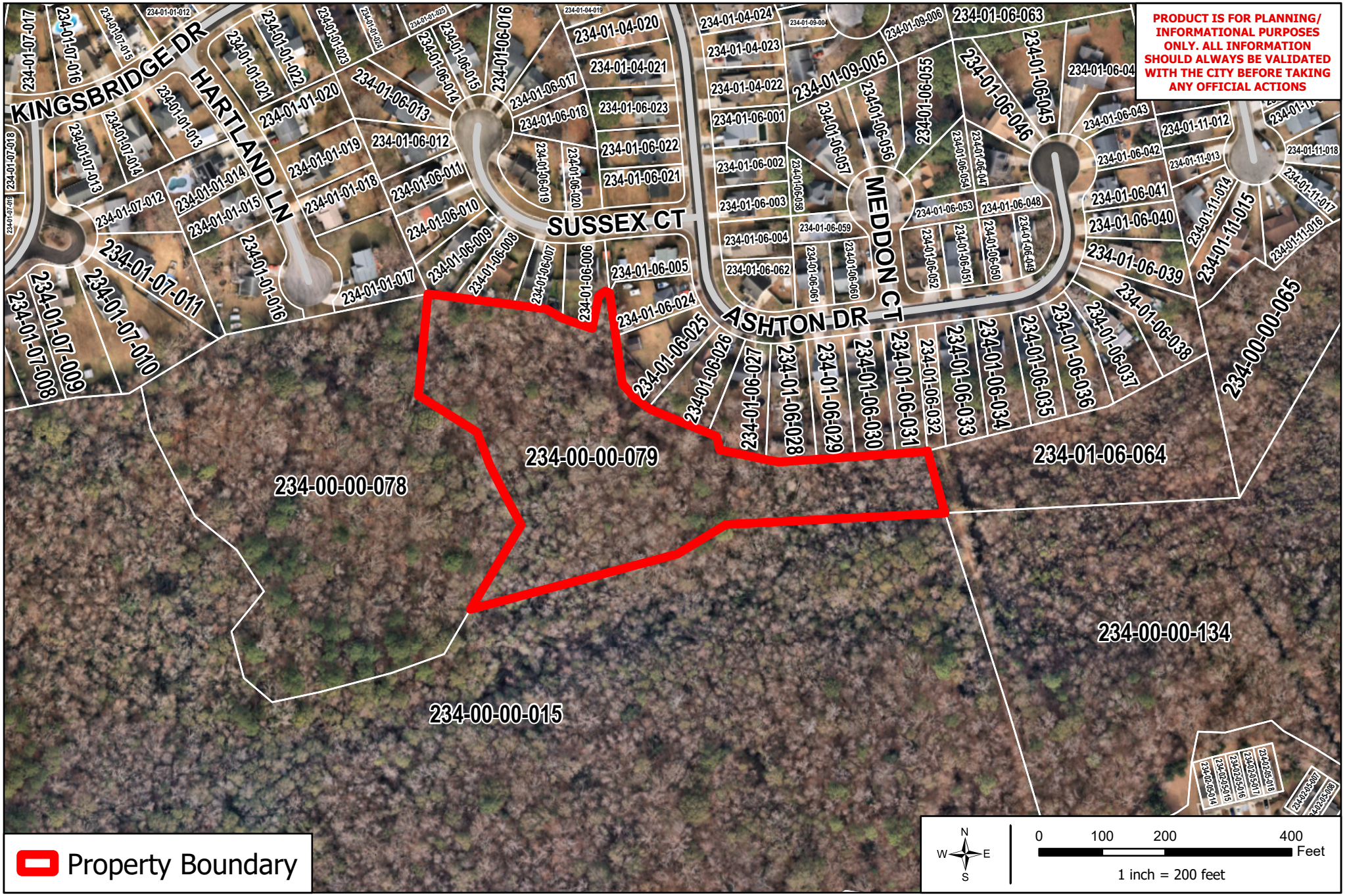
TMS# 234-00-00-079

ALSO

ALL that certain piece, parcel or tract of land, situate, lying and being in Berkeley County, South Carolina, more particularly shown and designated as "OPEN SPACE FOR RECREATIONAL USE", measuring and containing 2.164 acres, more or less, and shown on that certain plat entitled, "SURVEY OF TRACT B1 & RESIDUALS OF TRACT B2 (UNDEVELOPED PORTION) THE HASTINGS AT DEVON FOREST BERKELEY COUNTY, SC" prepared by Forsberg Engineering & Surveying, Inc., dated July 8, 1993, and recorded in the ROD Office for Berkeley County in Plat Cabinet K at page 78 (the "Open Space Plat"). Said tract of land having such size, shape, buttings and boundings as will by reference to the Open Space Plat more fully appear.

TMS# 234-00-00-080

These being portions of the premises conveyed to the Grantor herein by deed of H. Smith Richardson, Jr., Robert R. Richardson, Stuart Smith Richardson and Charles W. Cheek, as Testamentary Trustees under the Will of H. Smith Richardson by Charles W. Cheek, as Testamentary Trustee under the Will of H. Smith Richardson, deceased, and as duly appointed delegate of H. Smith Richardson, Jr., Robert R. Richardson and Stuart Smith Richardson, as Trustees aforesaid, dated February 11, 1985 and recorded in the RMC Office for Berkeley County in Book A-590 at page 221.



CREEK COMPASS
City of Goose Creek

City of Goose Creek GIS Division
519 N. Goose Creek Boulevard
Goose Creek, SC 29445
(843) 797 - 6220 Ext. 1132

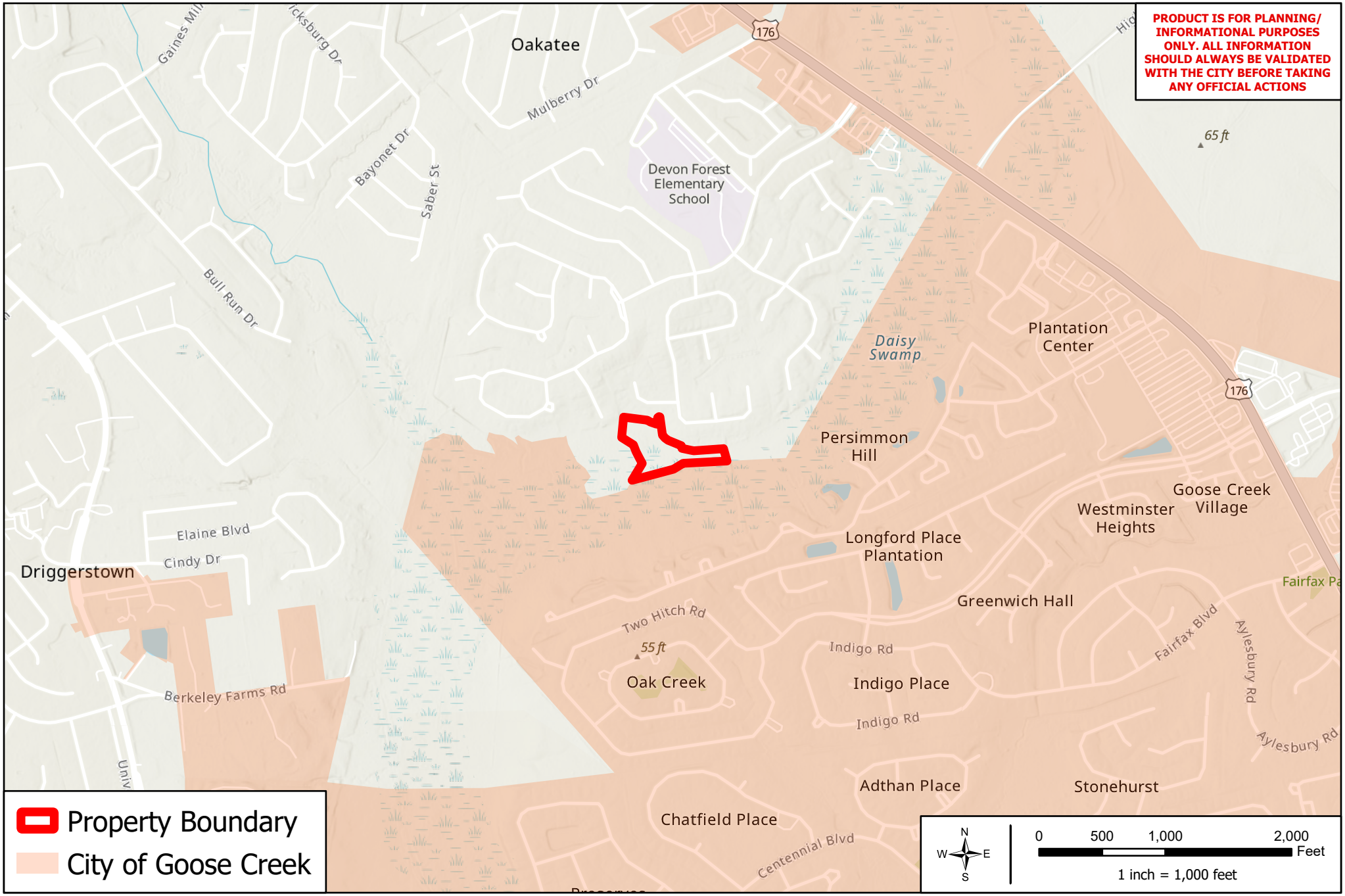
TMS: 234-00-00-079

Aerial Map

51

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Map as of 10/22/2026 11:00 AM



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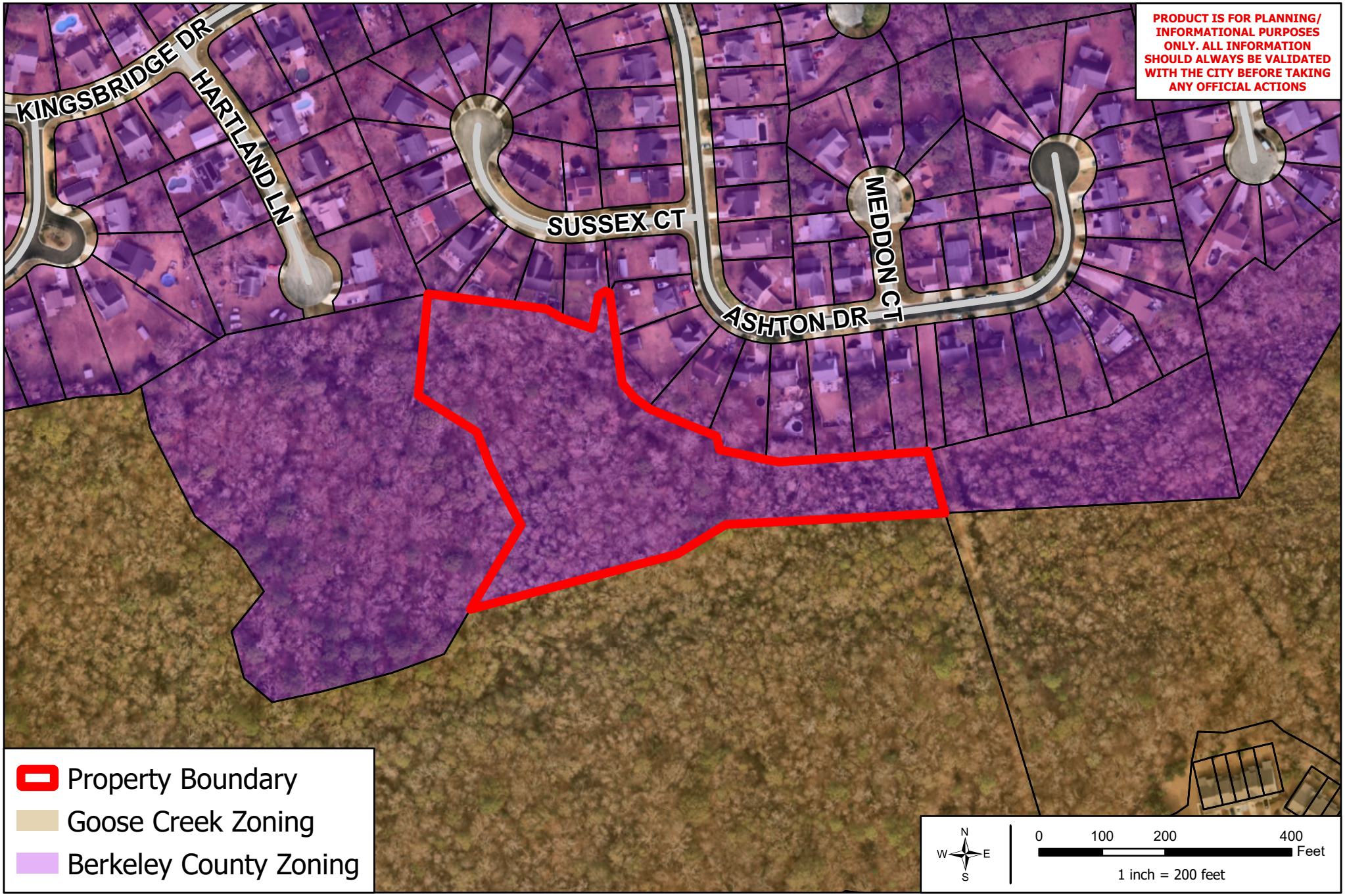
TMS: 234-00-00-079

Vicinity Map

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CREEK COMPASS
City of Goose Creek

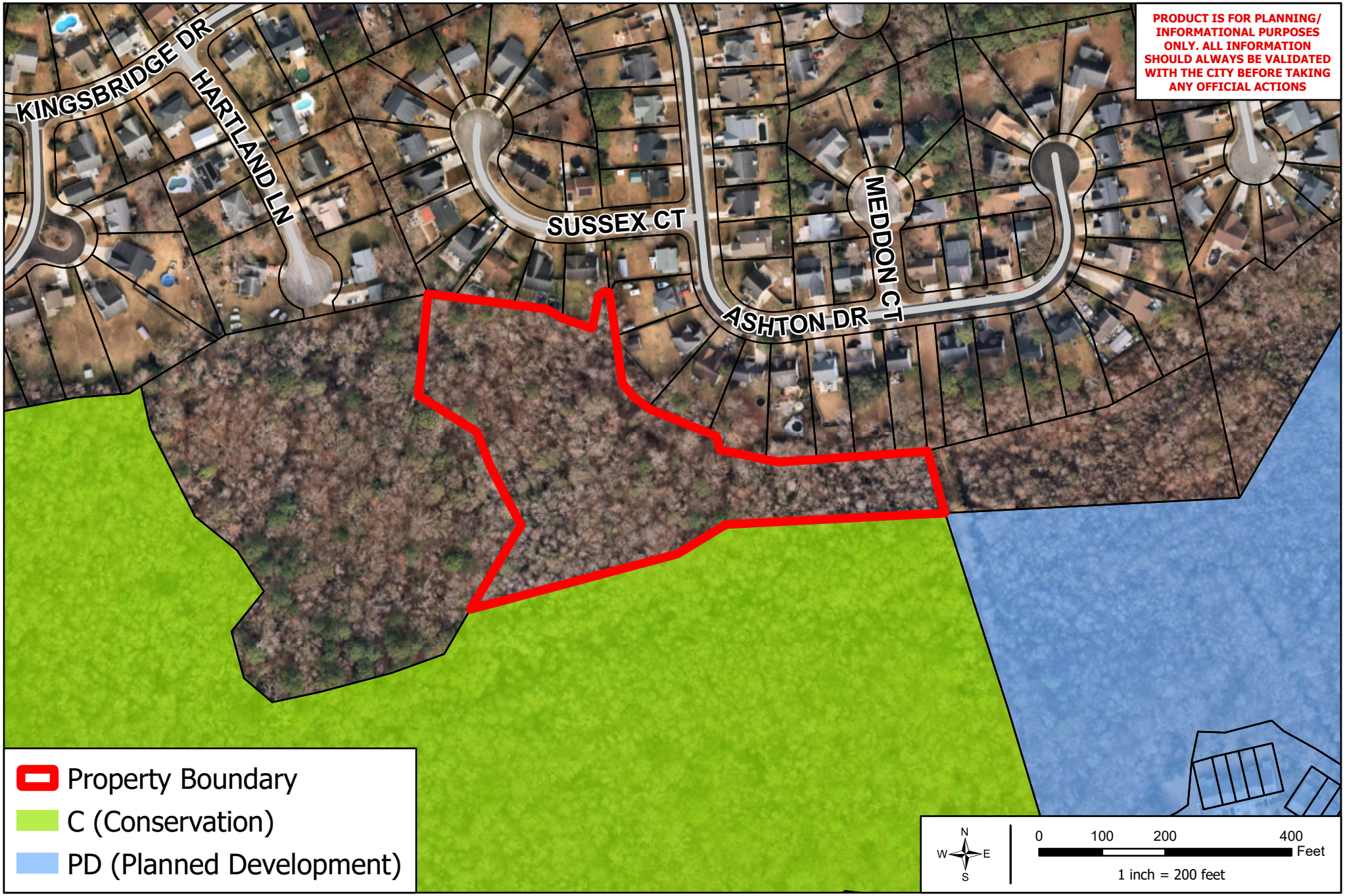
City of Goose Creek GIS Division
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TMS: 234-00-00-079

Zoning Map

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CREEK COMPASS
City of Goose Creek

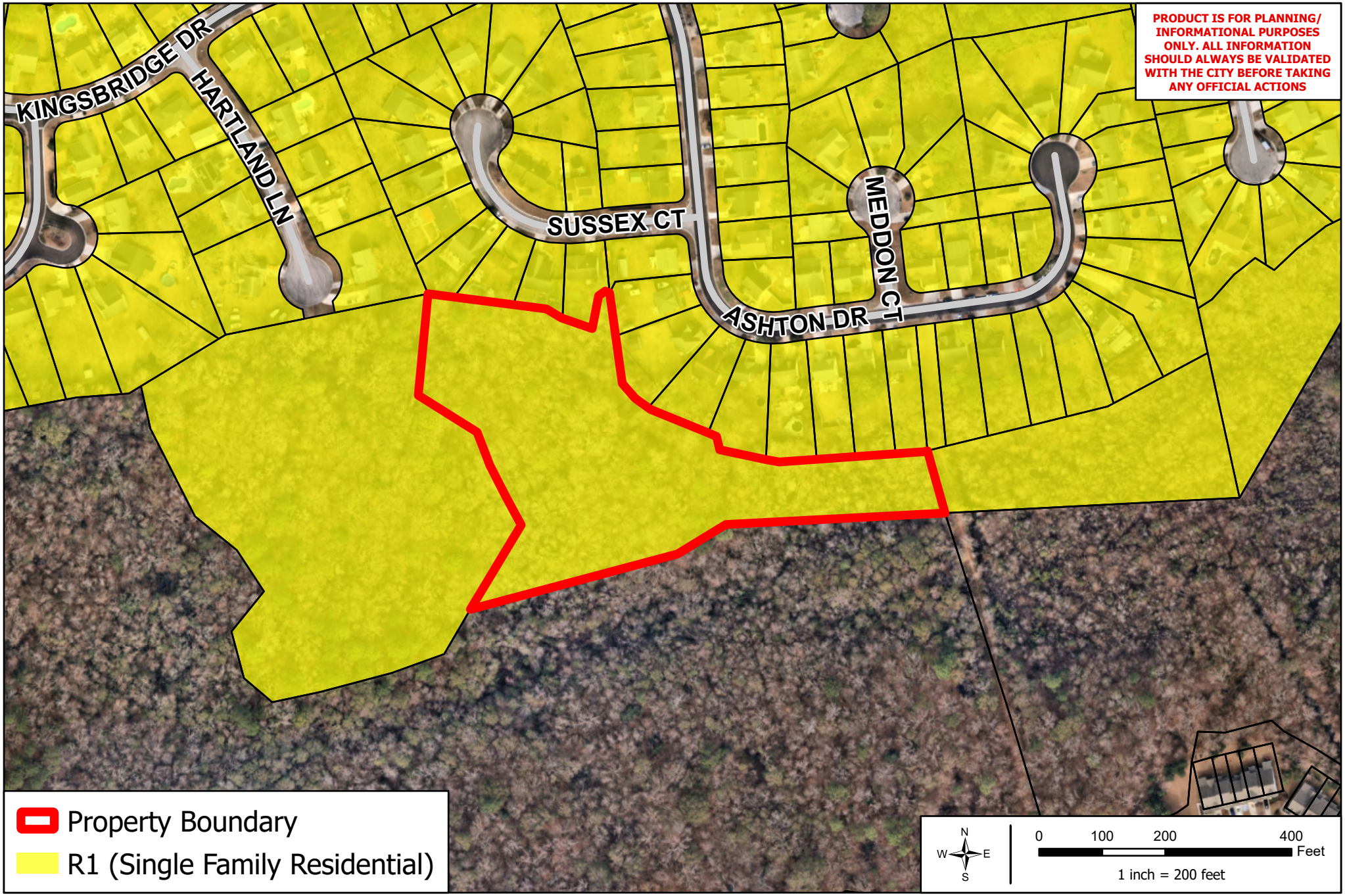
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TMS: 234-00-00-079

Goose Creek Zoning

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TMS: 234-00-00-079

Berkeley County Zoning

55

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City of Goose Creek

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TMS: 234-00-00-079

Future Land Use

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Map as of 10/22/2026 4:13 PM

STATE OF SOUTH CAROLINA)
)
COUNTY OF BERKELEY)

PETITION FOR ANNEXATION

The undersigned, being 100 percent of the freeholders owning 100 percent of the assessed value of the property in the contiguous territory described below and shown on the attached plat or map, hereby petition for annexation of said territory to the City off Goose Creek by ordinance effective as soon hereafter as possible, pursuant to South Carolina Code Section 5-3-150(3).

The territory to be annexed is described as follows:

Property Description:

PROPERTY DESCRIPTION ATTACHED

Berkeley County TMS: TMS # 234-00-00-079

Property Address: Unaddressed Near Ashton Drive and Sussex Ct

Proposed Zoning: Conservation

Attachments: Property Description / Vicinity Maps

Unaddressed Property near Ashton Dr. and Sussex Ct. (+/- 4.03Acres / TMS # 234-00-00-079), Goose Creek, SC 29456

Street Address, City, State, Zip Code

Natalie Zeigler, City Administrator — Natalie M Zeigler — November 10, 2026

Print Name — Signature — Date

==========

For Municipal Use:

Petition received by Reagan Osbon, Annexation Coordinator, Date November 10, 2026

Description and Ownership verified by Reagan Osbon, Date November 10, 2026

By: _____, Date 11/10/24

00028749 Vol: 8266 Pg: 131

EXHIBIT "A"
(Legal Description)

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TMS #234-00-00-015

ALSO

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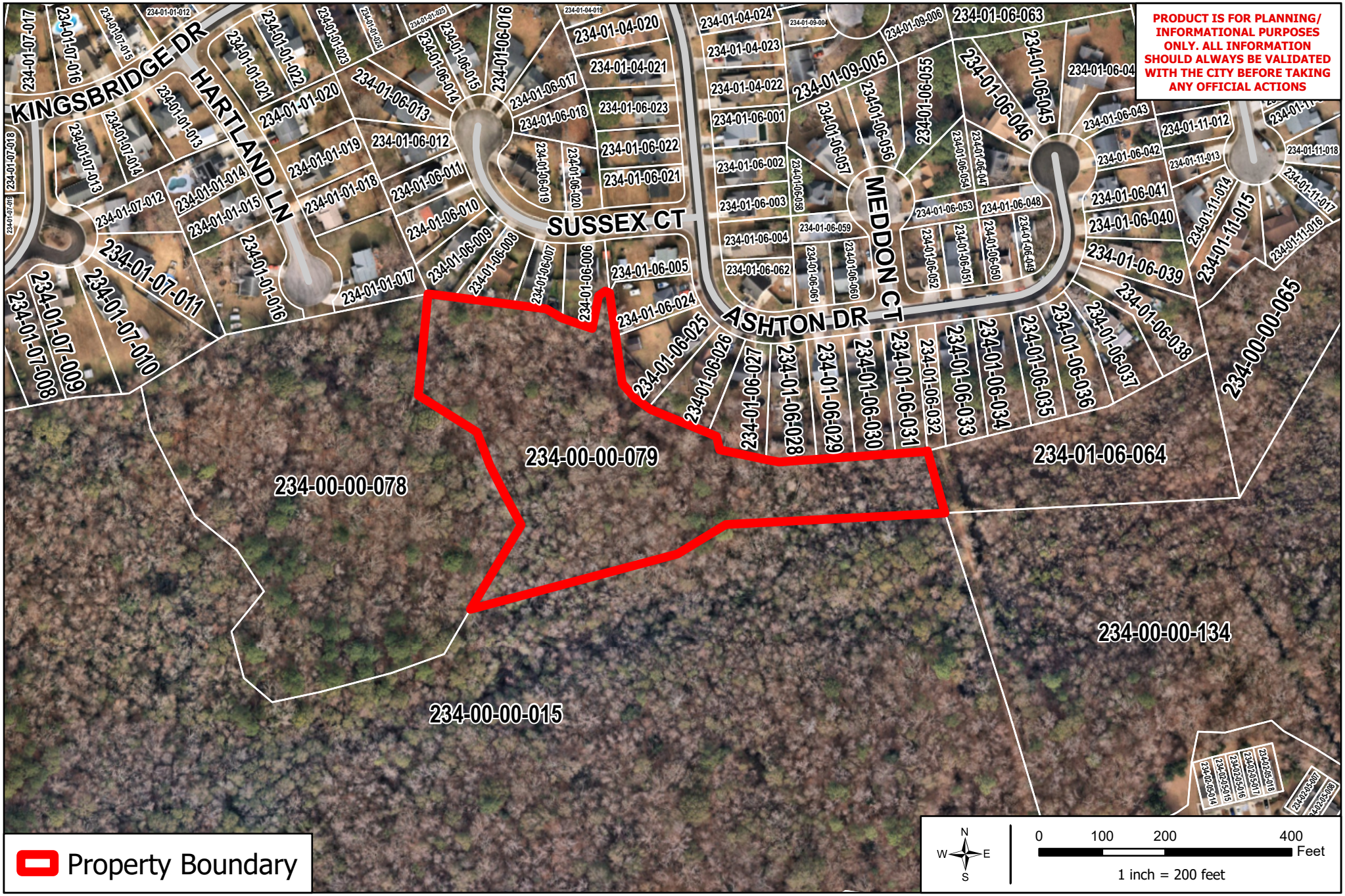
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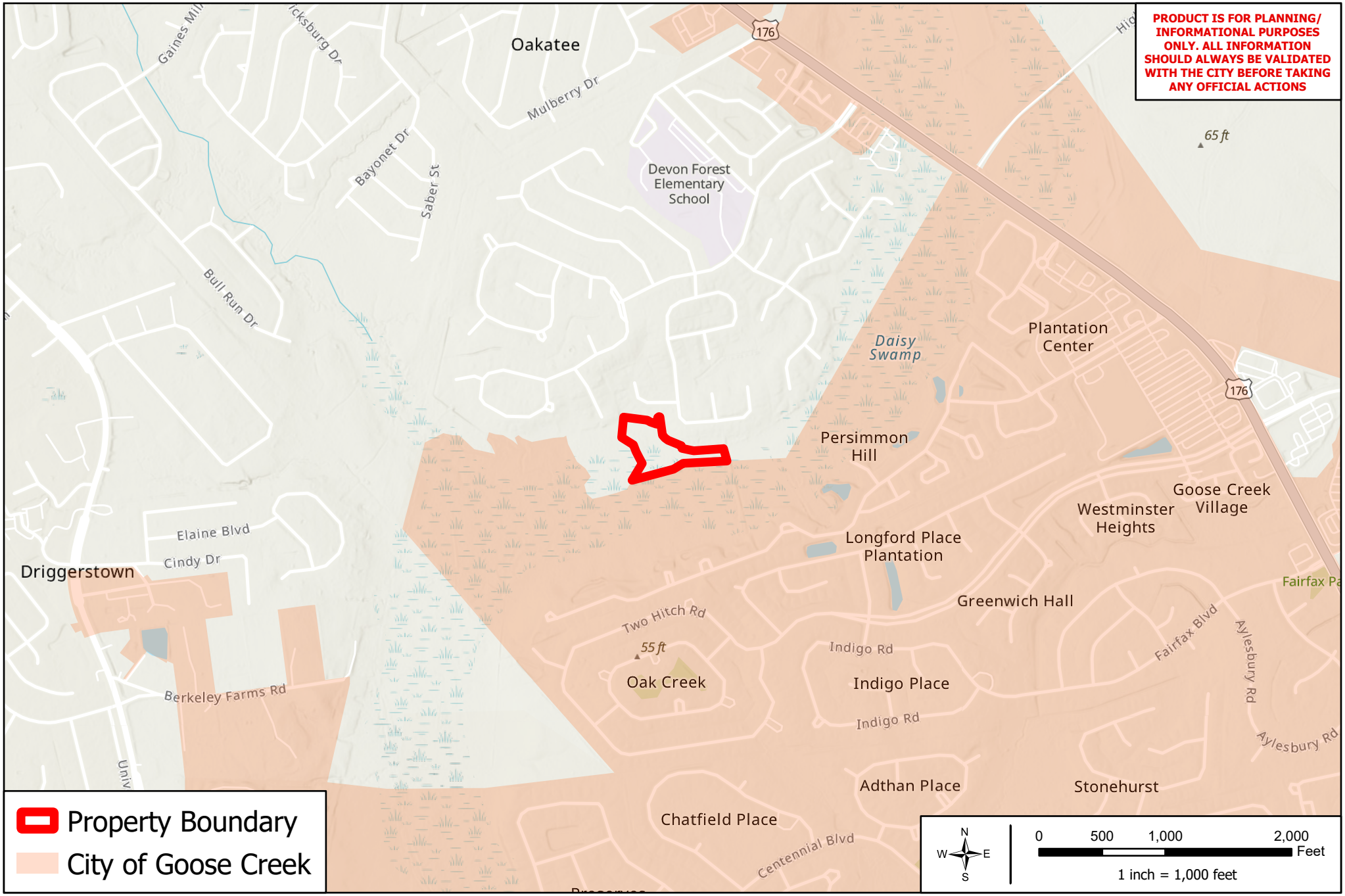
TMS: 234-00-00-079

Aerial Map

60

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Map as of 10/22/2026 11:00 AM



CREEK COMPASS
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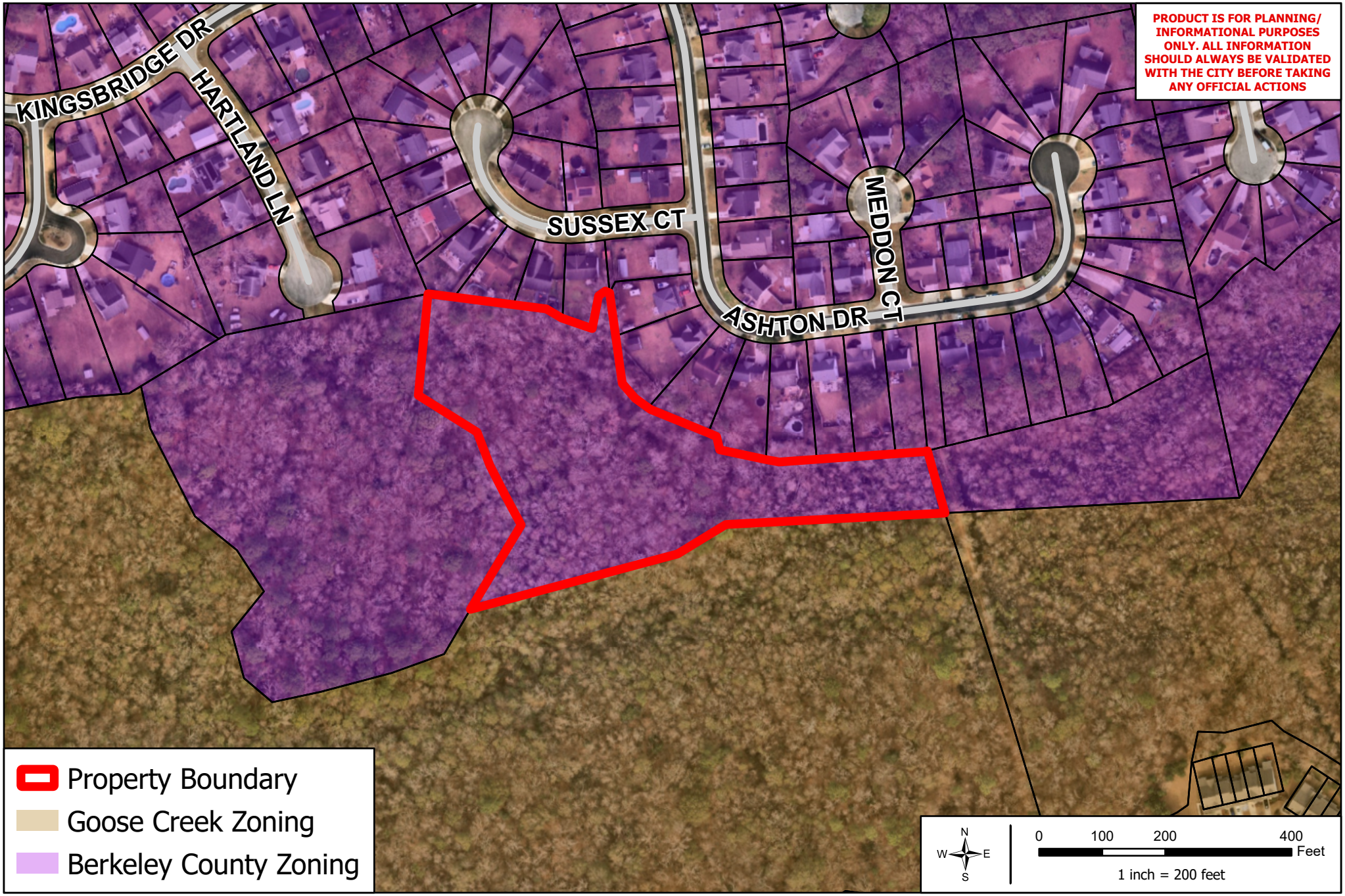
TMS: 234-00-00-079

Vicinity Map

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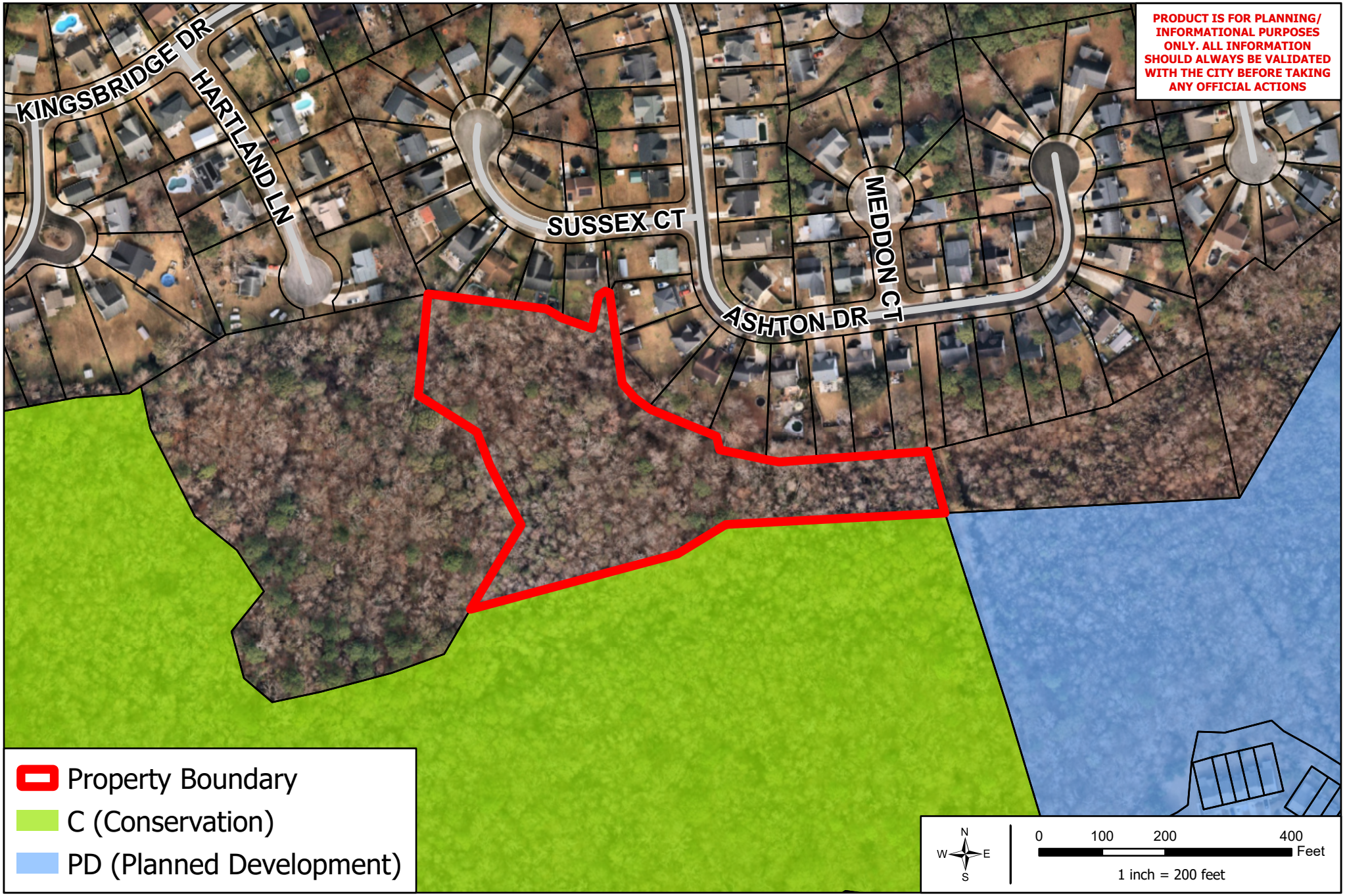


CREEK COMPASS
City of Goose Creek

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(843) 797 - 6220 Ext. 1132

TMS: 234-00-00-079

Zoning Map



CREEK COMPASS
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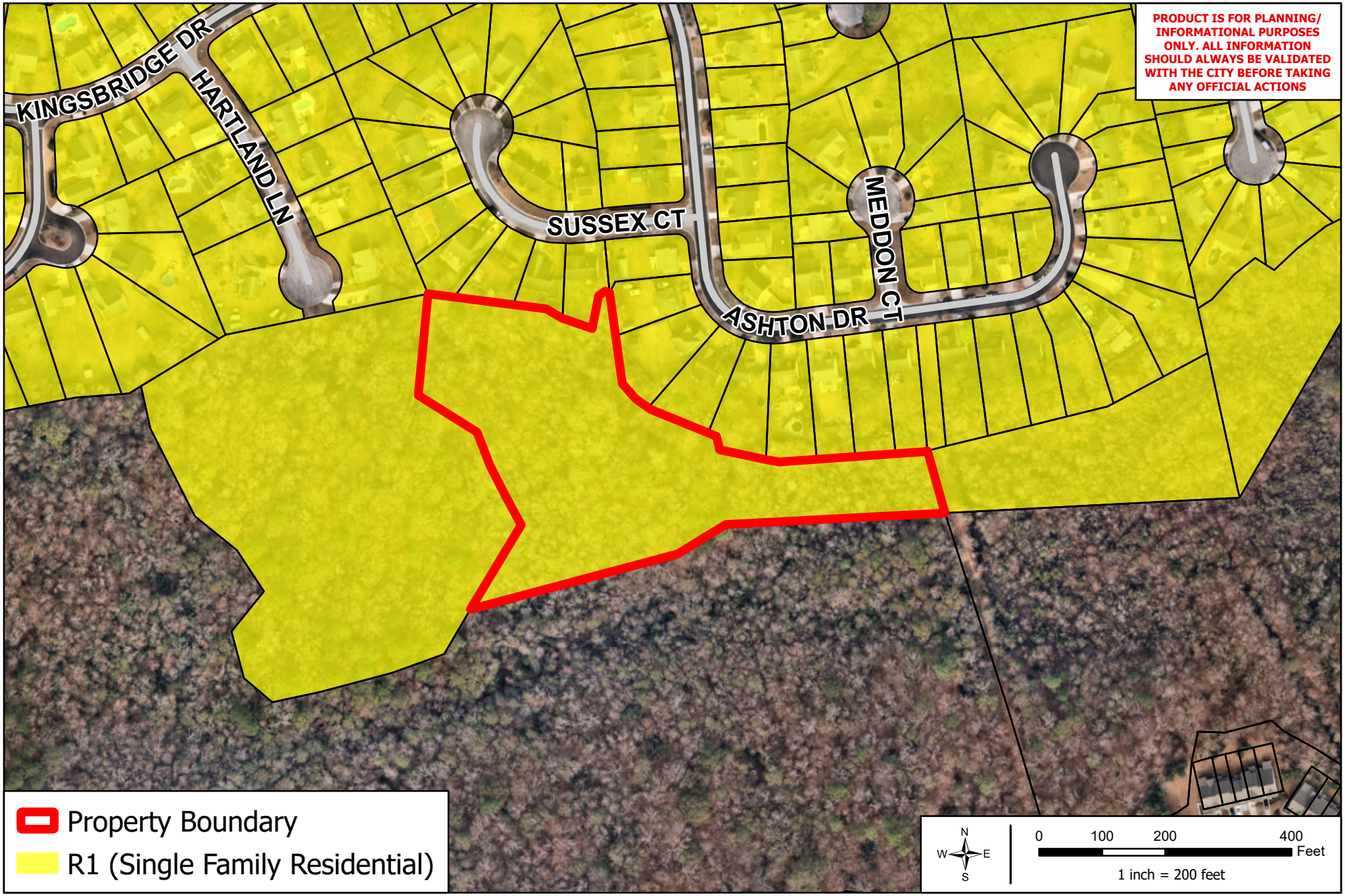
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Goose Creek Zoning

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Map as of 10/22/2026 4:09 PM



CREEK COMPASS
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TMS: 234-00-00-079

Berkeley County Zoning

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CREEK COMPASS
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TMS: 234-00-00-079

Future Land Use

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Map as of 10/22/2026 4:13 PM

Request for City Council Agenda Item

To: MAYOR AND CITY COUNCIL

From: REAGAN OSBON, SPECIAL PROJECTS MANAGER

Please check one box

☐ Regular Meeting ☐ Special Meeting

☐ Work Session

Please check one box, if applicable

☑ Ordinance ☐ Resolution ☐ Proclamation ☐ Request to Purchase

Ordinance/Resolution Title

DISCUSSION OF POTENTIAL ANNEXATION OF 222 AMY DRIVE (TMS # 235-13-08-018 / +/- 0.35 ACRES)

Background Summary

This City-owned property is contiguous to City Limits and is currently used as a gated access Felkel Field from Amy Drive. Staff recommends assigning a zoning classification of Residential Mixed (RM).

The Future Land Use Map calls for Low-Density Residential, which does not include RM, however, due to the nature of the property being used an access for a recreation facility, staff recommends a zoning of RM, a zoning district which expressly allows and encourages recreation facilities. Adjacent properties are zoned as Goose Creek Residential Mixed (RM) or Berkeley County Single-Family Residential (R-1).

Financial Impact

Anticipated Fire Fee is $1,530.

Impact if denied

Impact if approved

Department Head: City Administrator:

_____ _____

Signature & Date *Signature & Date*

CITY COUNCIL

December 8, 2026, at 6:00 PM
City of Goose Creek Municipal Court, 519 N. Goose Creek Blvd.

Annexation/Zoning Map Amendment
222 Amy Drive (TMS # 235-13-08-018)

Tax Map:	235-13-08-018
Proposal:	Annex and assign zoning from Berkeley County Single-Family Residential (R-1) to Goose Creek Mixed Residential (MR)
Applicant:	City of Goose Creek
Acreage:	+/- 0.35 Acres
Current Use:	Gated Driveway/Entrance to Felkel Field from Amy Drive
Proposed Use:	Recreation Facility
Land Use Classification:	Low-Density Residential
Current Zoning:	Berkeley County Single-Family Residential (R-1)
Proposed Zoning:	Goose Creek Conservation Residential Mixed (RM)
Anticipated Fire Fee:	$1,530
Staff Recommendation:	Approval

PLANS, POLICIES, AND LAND USE

The City of Goose Creek Comprehensive Plan (February 13, 2024) has the subject parcel designated as Low-Density Residential. Adjacent properties are zoned Berkeley County Single-Family Residential (R-1) or Goose Creek Mixed Residential (RM). The recommended zoning district would be a deviation from the future land use map.

ZONING DISTRICT SUMMARY

A vicinity zoning map is provided in the packet. The Future Land Use Map calls for Low-Density Residential, which does not include RM, however, due to the nature of the property being used an access for a recreation facility, staff recommends a zoning of RM, a zoning district which expressly allows and encourages recreation facilities.

STAFF RECOMMENDATION

Staff recommends approval.



CREEK COMPASS
City of Goose Creek

City of Goose Creek GIS Division
519 N. Goose Creek Boulevard
Goose Creek, SC 29445
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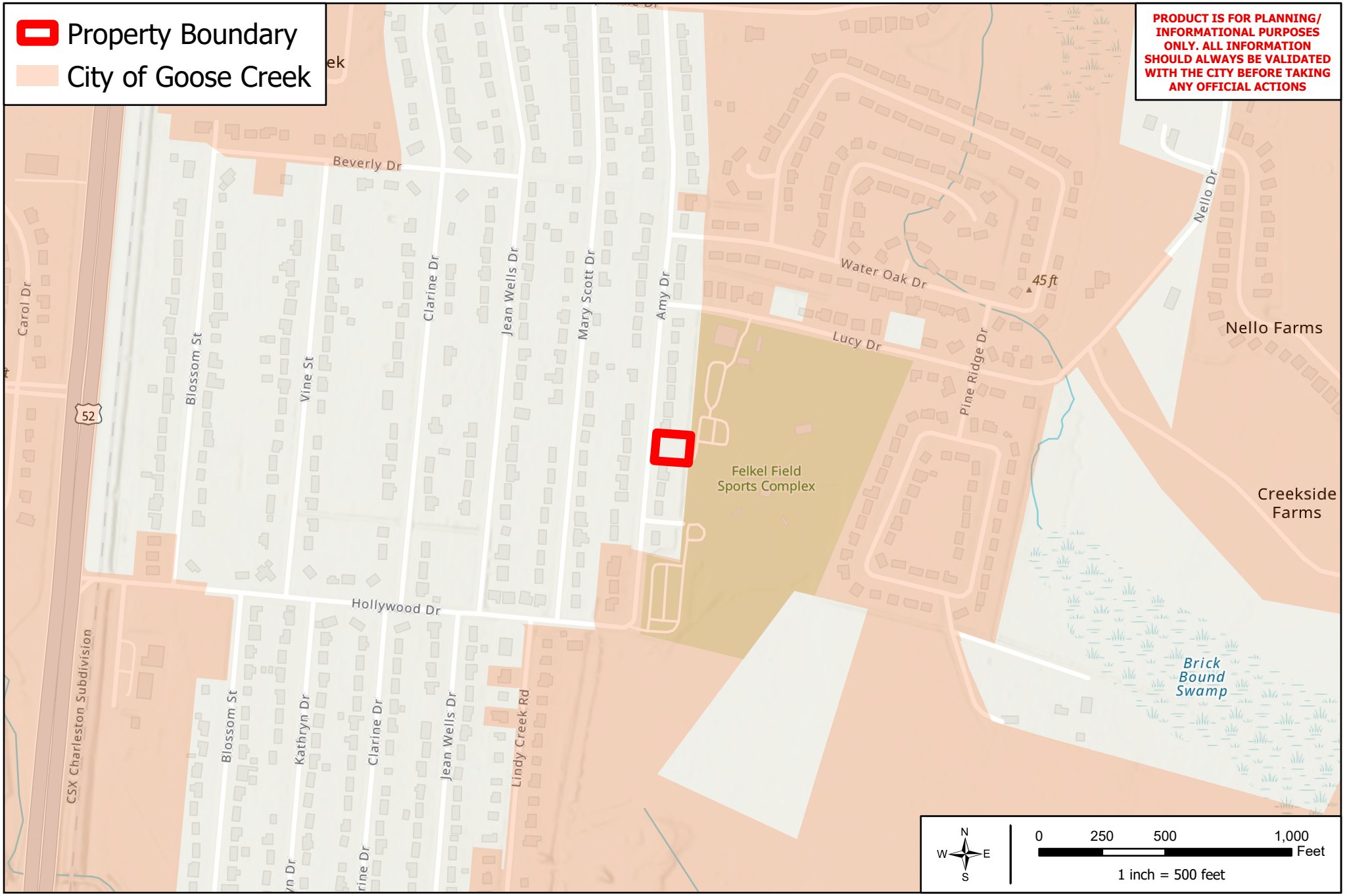
222 Amy Drive

Aerial Map

68

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Map as of 11/10/2026 10:27 AM



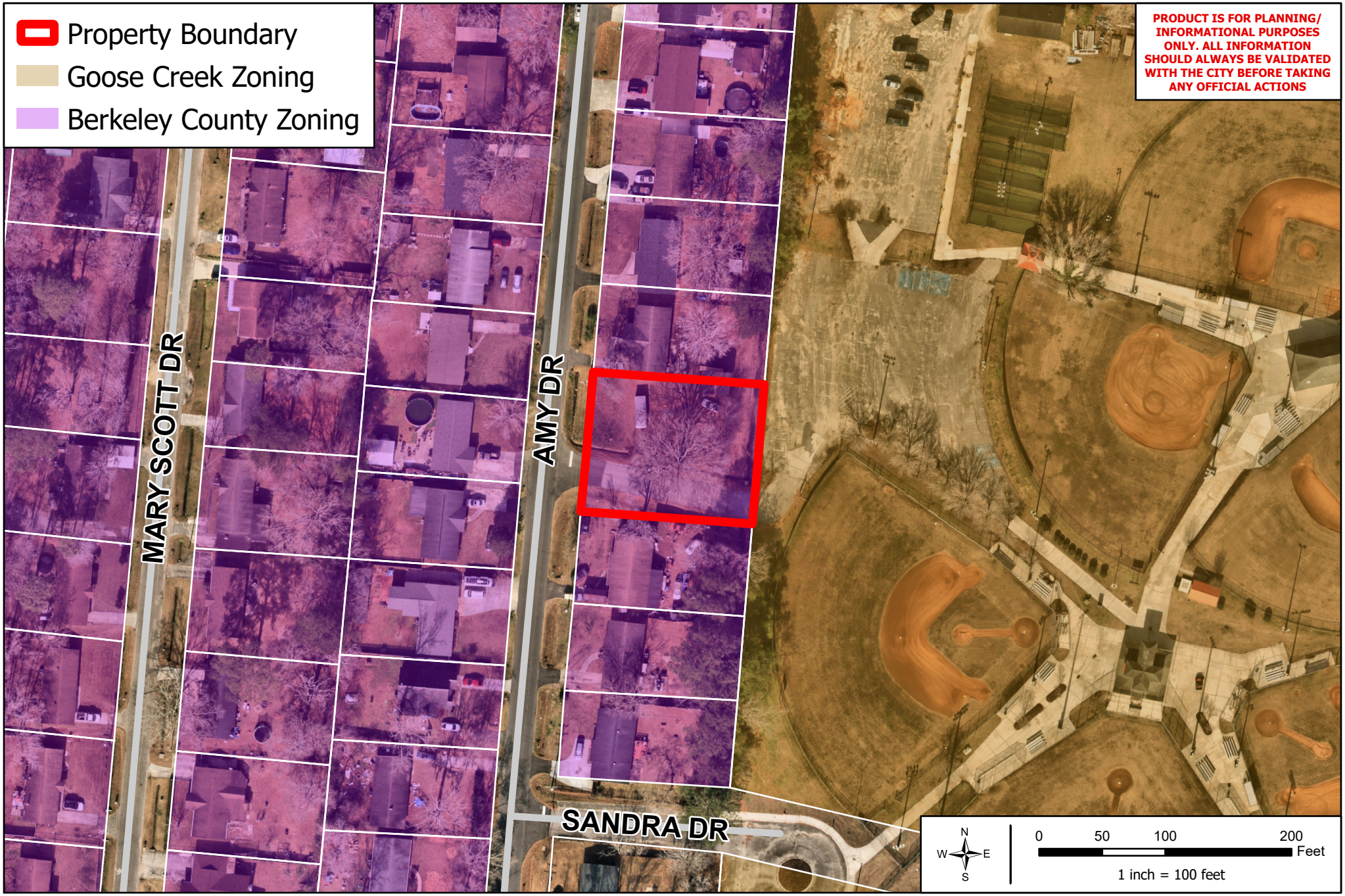
CREEK COMPASS
City of Goose Creek

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222 Amy Drive

Vicinity Map

69



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222 Amy Drive

Zoning Map

70



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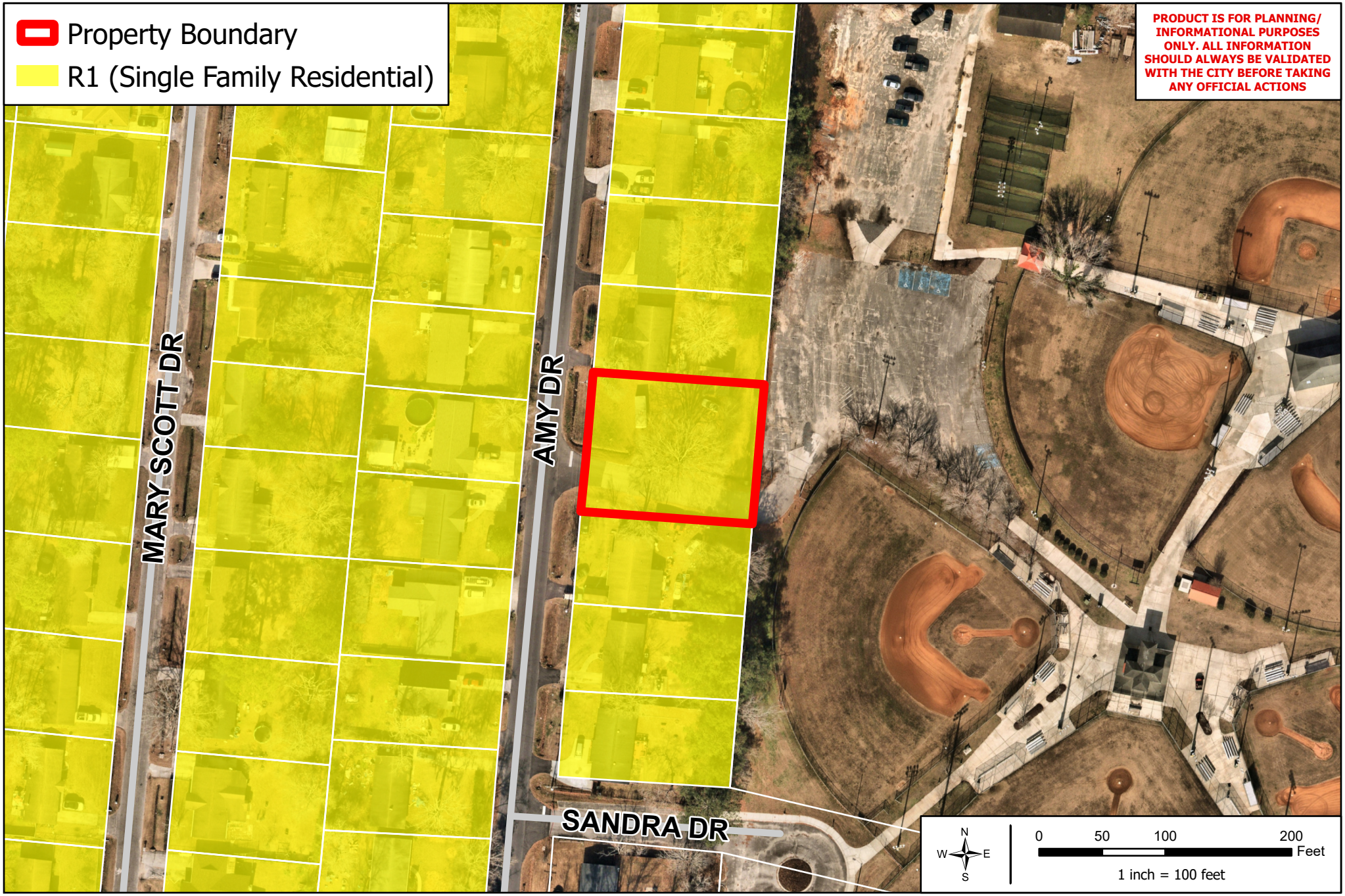
222 Amy Drive

Goose Creek Zoning

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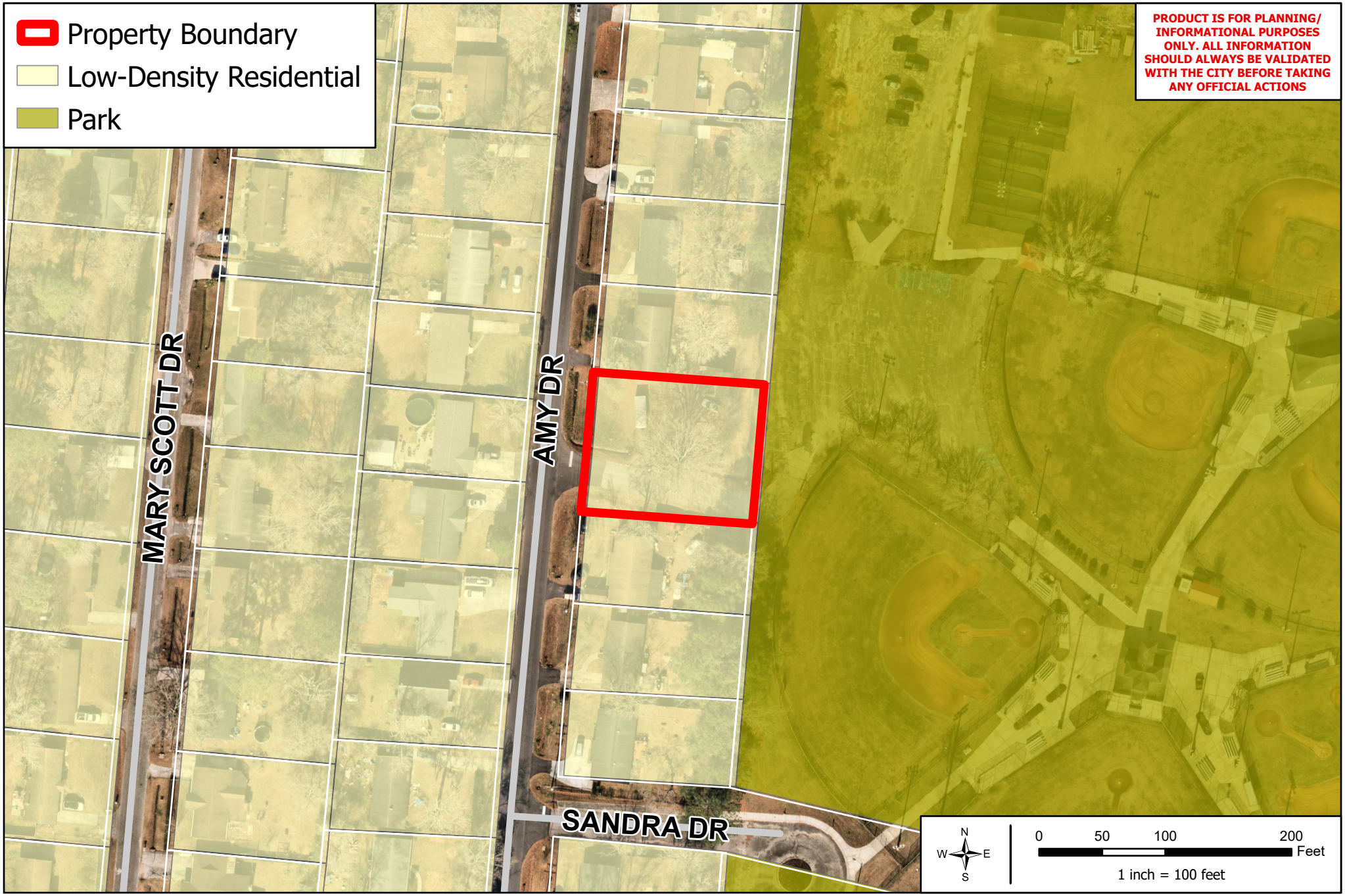
222 Amy Drive

Berkeley County Zoning

72

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222 Amy Drive

Future Land Use

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ORDINANCE NO. 2027-XXX

AN ORDINANCE PURSUANT TO TITLE 5, CHAPTER 3, SECTION 5-3-150, SUBSECTION 3, OF THE CODE OF LAWS OF SOUTH CAROLINA, 1976, AS AMENDED, TO ANNEX THE AREA IDENTIFIED AS TMS 235-13-08-018, PARCEL LOCATED AT 222 AMY DRIVE, INTO THE CITY OF GOOSE CREEK, A SOUTH CAROLINA MUNICIPAL CORPORATION AND TO ASSIGN A ZONING OF RESIDENTIAL MIXED (RM)

WHEREAS, the City of Goose Creek, South Carolina (the "City") is a municipal corporation created under the laws of the State of South Carolina, that is duly empowered to extend its municipal boundaries through annexation; and

WHEREAS, a proper petition under Section 5-3-150(3) of the Code of Laws of South Carolina 1976, as amended (the "SC Code") has been filed with the City Council by each of the persons owning 100 percent of the property hereinafter described; and

WHEREAS, the petitioning owner is contiguous to the City's existing municipal boundary; and

WHEREAS, the City, consistent with Section 5-3—310 of the SC Code, may elect, at its sole option, to provide the service formerly provided by another jurisdiction within the annexed area by providing reasonable written notice that City elects to displace such provider; and

WHEREAS, upon the annexation of the property contemplated by this Ordinance, the City Council intends to provide and serve the annexed property with all available municipal services; and

WHEREAS, City Council believes that annexation of the property would be in the best interest of the City of Goose Creek; and

WHEREAS, following proper notice, and publication, the City's Planning Commission recommends that the property be assigned a zoning classification of Residential Mixed (RM).

TMS Number: 235-13-08-018

Property Description:

ALL that certain piece, parcel or lot of land in Berkeley County, South Carolina designated as an unnumbered lot in Block A-A on the east side of Amy Drive, Beverly Hills Subdivision, and shown and delineated on that certain plat entitled "Plat of Beverly Hills Subdivision Berkeley County, SC" made by Thomas E. Young, Sr. dated March 4, 1963, latest revision date October 10, 1966, and recorded in Plat Book Rat Page 150 in the ROD Office for Berkeley County. Said lot being bounded on the North by Lot 8, Block A-A, to the East by lands shown on said plat as "Future Development", to the South by Lot 7, Block A-A and to the West by Amy Drive. Said lot having such

size, shape, locations and dimensions as will by reference to said plat more fully appear.

SUBJECT to all covenants, restrictions, easements and conditions of record.

BEING the same property conveyed to Goose Creek Recreation Commission by deed of Berkeley County Forfeited Land Commission dated March 16, 2000 and recorded on April 4, 2000 in Book 1892 at Page 78 in the ROD Office for Berkeley County, South Carolina.

TMS# 235-13-08-018

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the City of Goose Creek, South Carolina, this 12th day of January 2027, as follows:

1. The property herein described below are hereby annexed to and become a part of the City as of the date of enactment of this Ordinance:

In addition to the property, all public rights of way, streets, highways, and easements included in the territory hereby annexed are additionally annexed into the City.

2. Based on the recommendation of the City's Planning Commission, the Property shall be assigned a zoning classification of Residential Mixed (RM).

3. The City intends to provide all available municipal services to the Property. In keeping therewith, the City, acting through the Mayor or his assigns, shall be authorized to notify all necessary parties of the annexations authorized by this Ordinance and the City's intention to provide all applicable services to the Property. The Mayor or his assigns shall be further authorized to negotiate, execute and deliver any necessary agreement to memorialize the terms and provisions of any agreement contemplated by Section 5-3-311 of the SC Code in lieu of any plan to balance equities and interest under Section 5-3-312 of the SC Code. To the extent any funding is or will be committed under such agreement, and funds therefore are not otherwise budgeted in the City's then-existing budget, such funding commitment shall be subject to further approval and ratification by City Council, but should not otherwise affect or limit the terms of any agreement between the City and any displaced service provider.

4. If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held or determined to be invalid, such decision shall not affect the validity of the remaining portions of this Ordinance.

5. This ordinance shall become effective immediately upon enactment.

[SIGNATURE PAGE TO FOLLOW]

INTRODUCED the 8th of December, 2026.

DONE the _____day of _____, 2027.

_____

Mayor Gregory S. Habib

Attest:_____

Kelly J. Lovette, MMC, City Clerk

_____ _____

Mayor Pro Tem Jerry Tekac Councilmember Debra Green-Fletcher

_____ _____

Councilmember Christopher Harmon Councilmember Gayla S.L. McSwain

_____ _____

Councilmember Corey D. McClary Councilmember Melissa Enos-Sims



CREEK COMPASS
City of Goose Creek

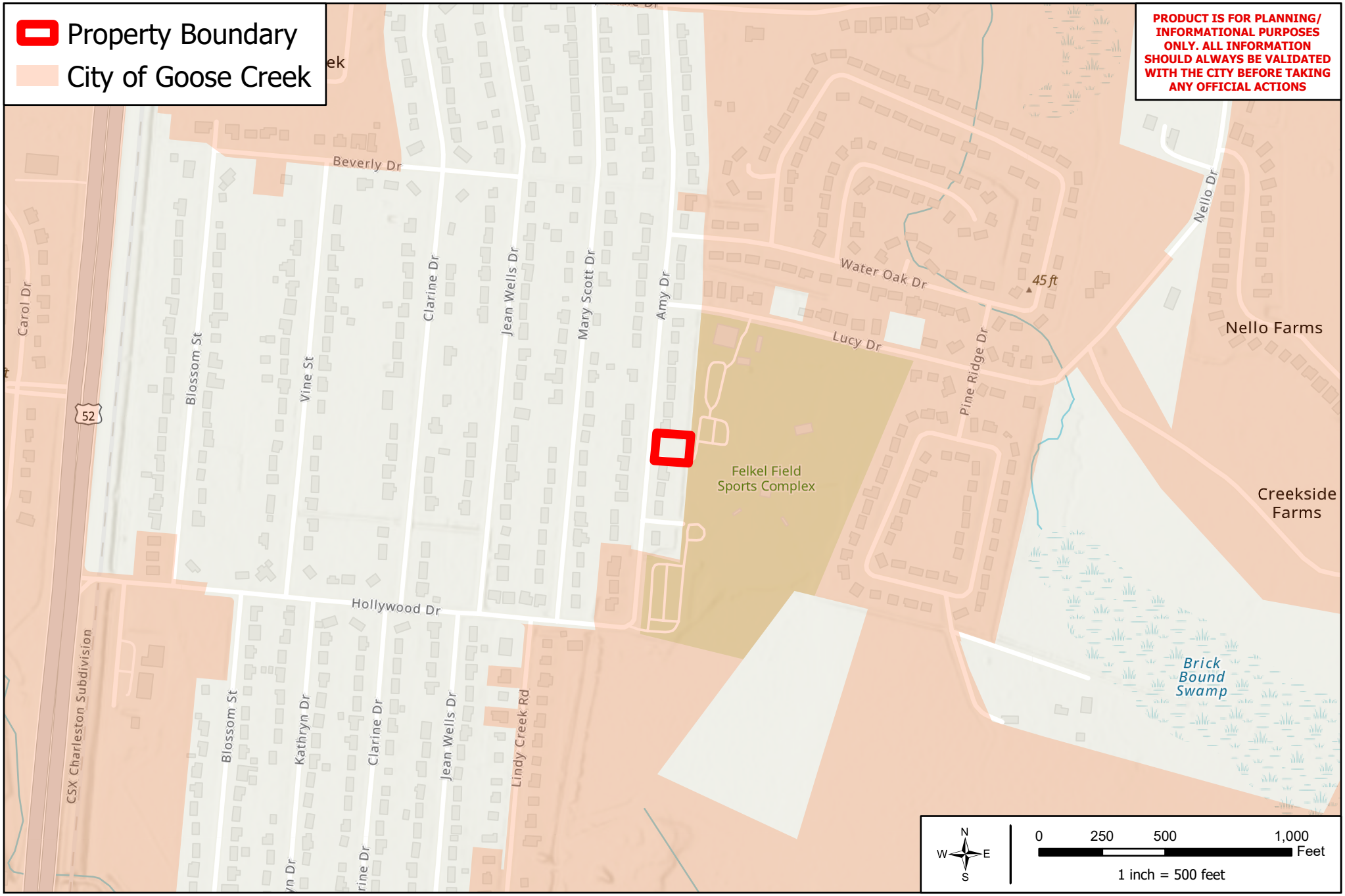
City of Goose Creek GIS Division
519 N. Goose Creek Boulevard
Goose Creek, SC 29445
(843) 797 - 6220 Ext. 1132

222 Amy Drive

Aerial Map

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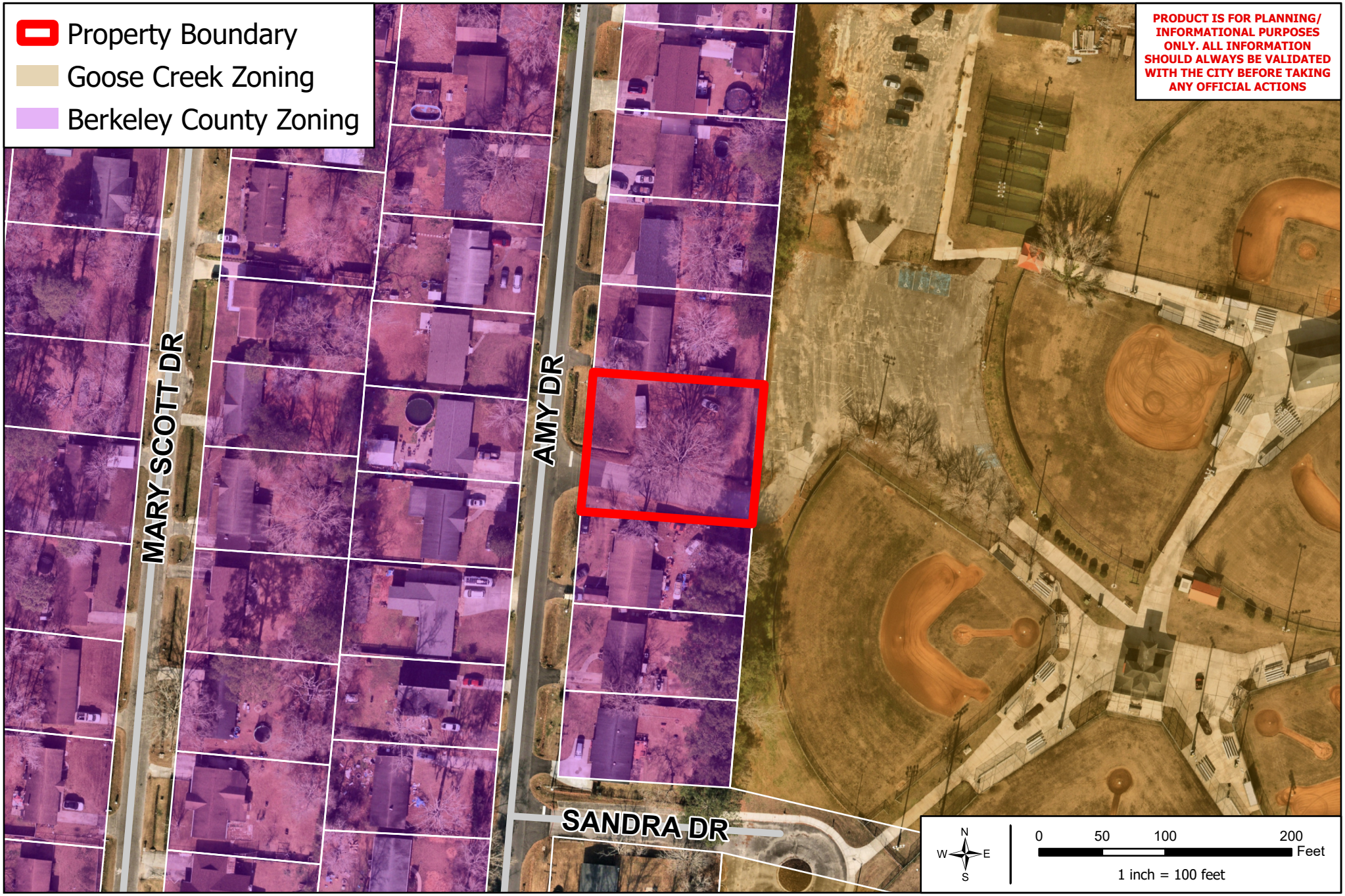
222 Amy Drive

Vicinity Map

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222 Amy Drive

Zoning Map

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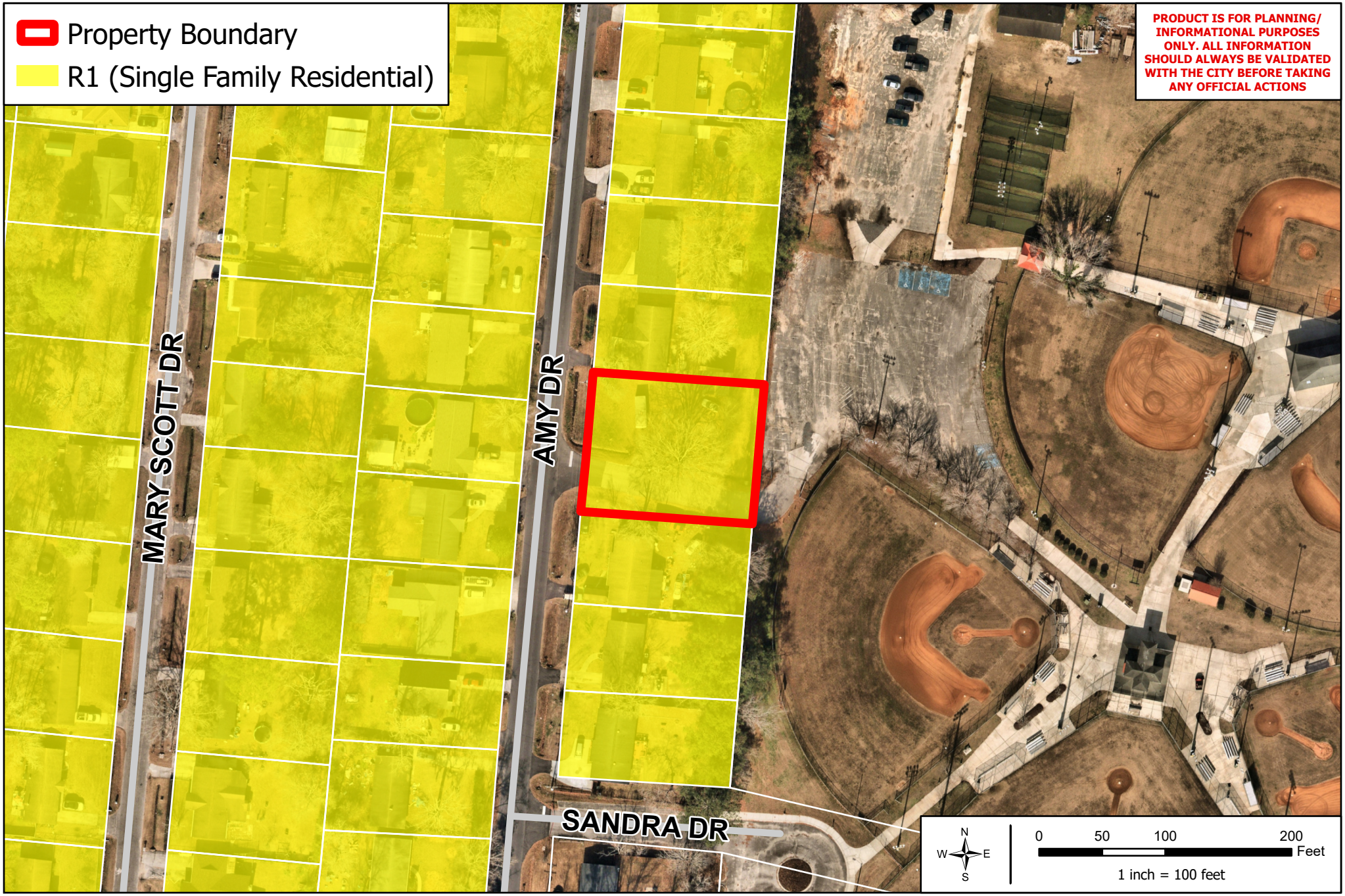
222 Amy Drive

Goose Creek Zoning

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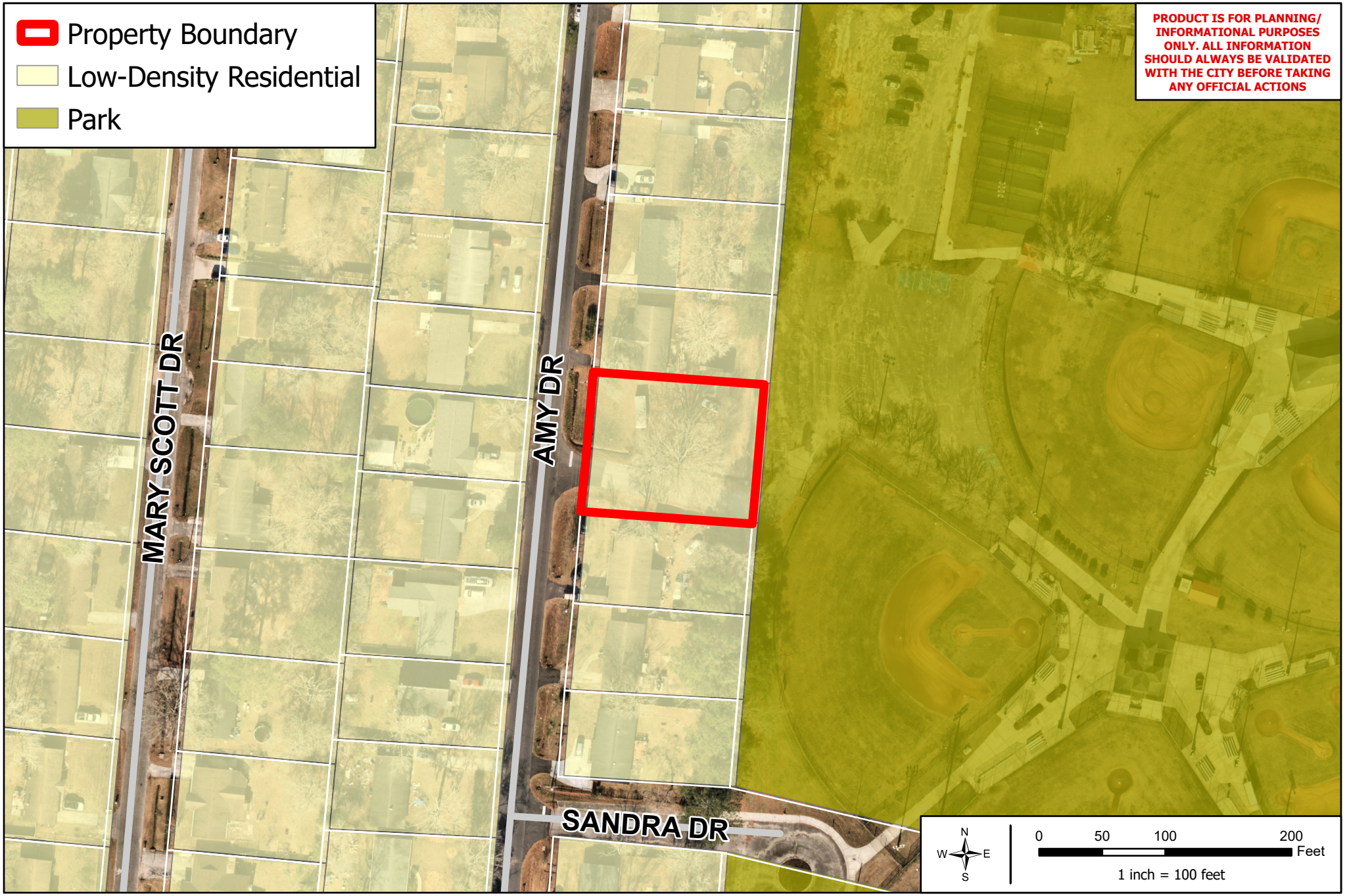
222 Amy Drive

Berkeley County Zoning

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222 Amy Drive

Future Land Use

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STATE OF SOUTH CAROLINA)
)
COUNTY OF BERKELEY)

PETITION FOR ANNEXATION

The undersigned, being 100 percent of the freeholders owning 100 percent of the assessed value of the property in the contiguous territory described below and shown on the attached plat or map, hereby petition for annexation of said territory to the City off Goose Creek by ordinance effective as soon hereafter as possible, pursuant to South Carolina Code Section 5-3-150(3).

The territory to be annexed is described as follows:

Property Description:

ALL that certain piece, parcel or lot of land in Berkeley County, South Carolina designated as an unnumbered lot in Block A-A on the east side of Amy Drive, Beverly Hills Subdivision, and shown and delineated on that certain plat entitled "Plat of Beverly Hills Subdivision Berkeley County, SC" made by Thomas E. Young, Sr. dated March 4, 1963, latest revision date October 10, 1966, and recorded in Plat Book Rat Page 150 in the ROD Office for Berkeley County. Said lot being bounded on the North by Lot 8, Block A-A, to the East by lands shown on said plat as "Future Development", to the South by Lot 7, Block A-A and to the West by Amy Drive. Said lot having such size, shape, locations and dimensions as will by reference to said plat more fully appear.

SUBJECT to all covenants, restrictions, easements and conditions of record.

BEING the same property conveyed to Goose Creek Recreation Commission by deed of Berkeley County Forfeited Land Commission dated March 16, 2000 and recorded on April 4, 2000 in Book 1892 at Page 78 in the ROD Office for Berkeley County, South Carolina.

Berkeley County TMS: TMS # 235-13-08-018

Property Address: 222 Amy Drive

Proposed Zoning: Residential Mixed (RM)

Attachments: Vicinity Maps (Annexation)

222 Amy Drive, Goose Creek, SC 29456

Street Address, City, State, Zip Code

Natalie Zeigler, City Administrator — Natalie M Zeigler — November 10, 2026

Print Name — Signature — Date

==========

For Municipal Use:

Petition received by Reagan Osbon, Annexation Coordinator, Date November 10, 2026

Description and Ownership verified by __Reagan Osbon_____, Date __November 10, 2026

By: _____, Date __November 10, 2026

Request for City Council Agenda Item

To: MAYOR AND CITY COUNCIL

From: REAGAN OSBON, SPECIAL PROJECTS MANAGER

Please check one box

☐ Regular Meeting ☐ Special Meeting

☐ Work Session

Please check one box, if applicable

☑ Ordinance ☐ Resolution ☐ Proclamation ☐ Request to Purchase

Ordinance/Resolution Title

DISCUSSION OF POTENTIAL ANNEXATION OF 588 OLD MT HOLLY ROAD (TMS # 234-00-00-143 / +/- 0.94 ACRES

Background Summary

This parcel is located on Old Mt Holly Road, one parcel removed from the intersection of St. James Avenue (US HWY 176) and Old Mt Holly Road. The property received a new tenant, and upon request for water service, completed the Declaration of Annexation Covenant (Covenant), giving the city permission to annex in the property. That covenant was recorded with Berkeley County Register of Deeds.

The purpose of the General Commercial (GC) District is to provide lands that accommodate a broad range of nonresidential uses characterized primarily by retail, office, and service establishments. Development is primarily auto oriented, serving isolated commercial areas outside of the activity centers. Allowed uses include personal services, retail sales, recreation/entertainment, commercial services, restaurants, visitor accommodation, and vehicle sales and services.

No use changes are expected as a part of the annexation and the existing businesses uses (Tobacco/Hookah/Vaping Establishment and Medical Clinic) are allowed conditionally and outright permitted, respectively. One change is that the property will be subject to Goose Creek Code Enforcement, including property maintenance standards and non-permanent signs.

Financial Impact

The anticipated Fire Fee is $6,225.00.
Impact if denied
Impact if approved
Department Head: _____ *Signature & Date* City Administrator: _____ *Signature & Date*

CITY COUNCIL

December 8, 2026, at 6:00 PM
City of Goose Creek Municipal Court, 519 N. Goose Creek Blvd.

Annexation/Zoning Map Amendment
Old Mt Holly Road

Tax Map:	234-00-00-143
Proposal:	Annex and assign zoning from Berkeley County General Commercial (GC) to Goose Creek General Commercial (GC)
Applicant:	SLIM BRO OFFICE PARK LLC (via Water Service Annexation Covenant)
Acreage:	+/- 0.93 acres
Current Use:	Commercial Retail and Medical Office
Proposed Use:	Commercial Retail Establishment and Medical Office
Land Use Classification:	General Commercial
Current Zoning:	Berkeley County General Commercial (GC)
Proposed Zoning:	Goose Creek General Commercial (GC)
Staff Recommendation:	Approval

PLANS, POLICIES, AND LAND USE

The City of Goose Creek Comprehensive Plan (February 13, 2024) has the subject parcels designated as General Commercial (Comprehensive Plan). Adjacent properties are zoned Berkeley County or Goose Creek General Commercial. A new tenant of the property requested water service and completed the required Declaration of Annexation Covenant on September 15, 2026.

ZONING DISTRICT SUMMARY

A vicinity zoning map is provided in the packet. This parcel is located on Old Mt Holly Road, one parcel removed from the intersection of St. James Avenue (US HWY 176) and Old Mt Holly Road. The purpose of the General Commercial (GC) District is to provide lands that accommodate a broad range of nonresidential uses characterized primarily by retail, office, and service establishments. Development is primarily auto oriented, serving isolated commercial areas outside of the activity centers. Allowed uses include personal services, retail sales, recreation/entertainment, commercial services, restaurants, visitor accommodation, and vehicle sales and services.

No use changes are expected as a part of the annexation and the existing businesses uses (Tobacco/Hookah/Vaping Establishment and Medical Clinic) are allowed conditionally and outright permitted, respectively. One change is that the property will be subject to Goose Creek Code Enforcement, including property maintenance standards and non-permanent signs.

STAFF RECOMMENDATION

Staff recommends approval. Annexation of the property will extend City boundaries and help fill a City "donut-hole," as well as support commercial business and taxbase growth for the City.



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TMS: 234-00-00-143

Aerial Map

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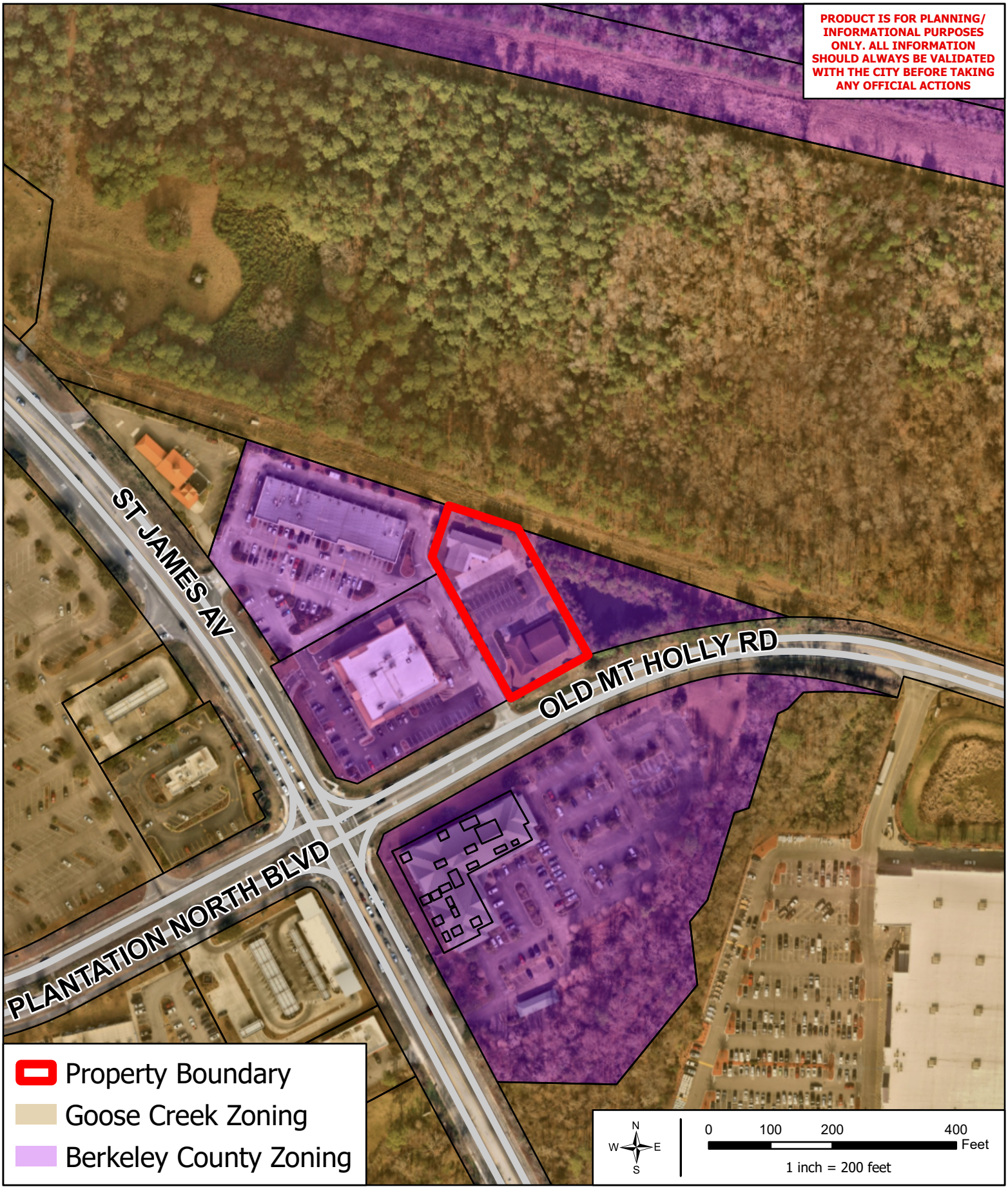
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Vicinity Map

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Zoning Map

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Goose Creek Zoning

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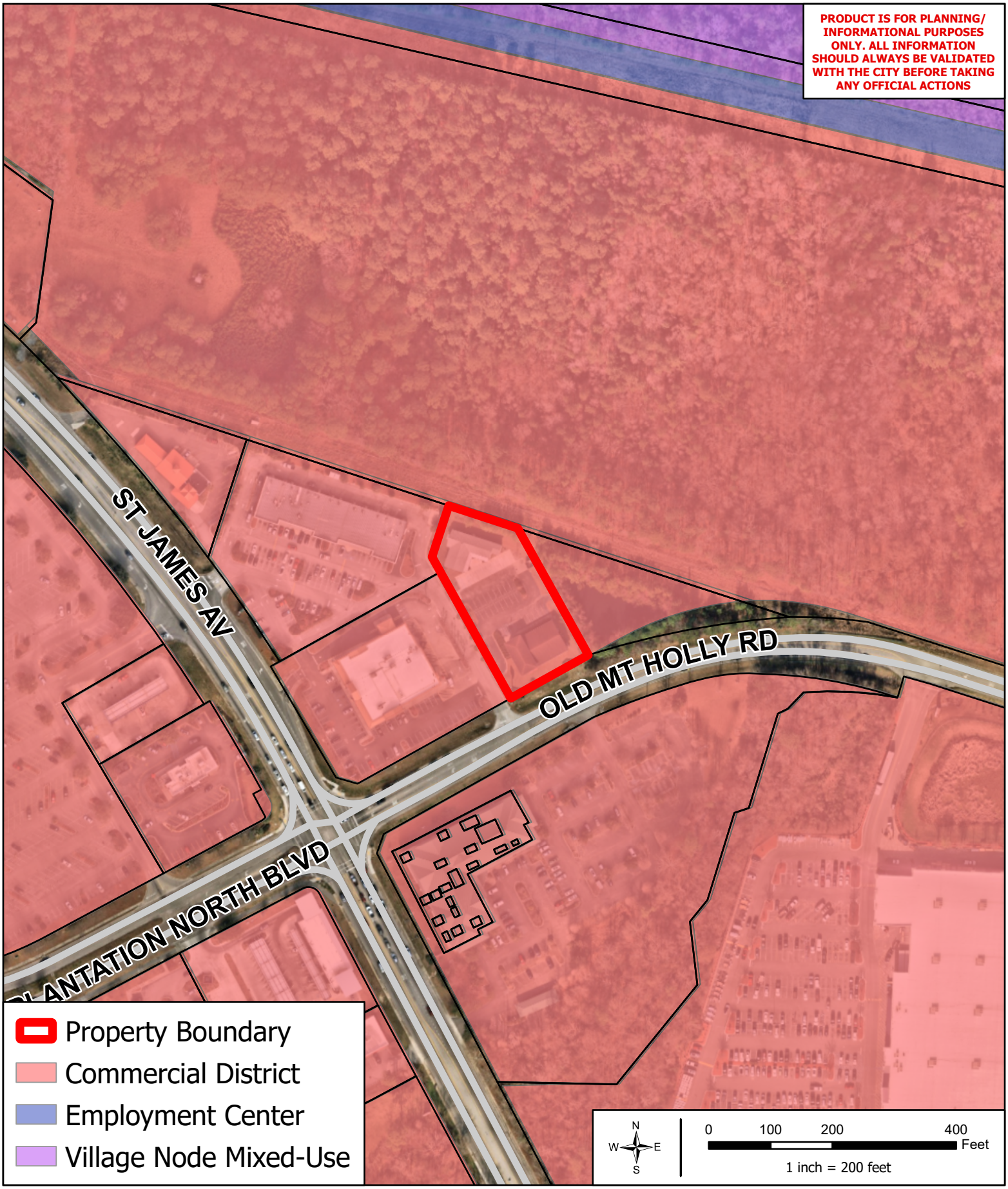
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Berkeley County Zoning

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Future Land Use

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Map as of 10/22/2026 2:08 PM

ORDINANCE NO. 2027-XXX

AN ORDINANCE PURSUANT TO TITLE 5, CHAPTER 3, SECTION 5-3-150, SUBSECTION 3, OF THE CODE OF LAWS OF SOUTH CAROLINA, 1976, AS AMENDED, TO ANNEX THE AREA IDENTIFIED AS TMS 234-00-00-143, LOCATED ON OLD MT HOLLY ROAD, INTO THE CITY OF GOOSE CREEK, A SOUTH CAROLINA MUNICIPAL CORPORATION AND TO ASSIGN A ZONING OF GENERAL COMMERCIAL (GC)

WHEREAS, the City of Goose Creek, South Carolina (the "City") is a municipal corporation created under the laws of the State of South Carolina, that is duly empowered to extend its municipal boundaries through annexation; and

WHEREAS, a proper petition under Section 5-3-150(3) of the Code of Laws of South Carolina 1976, as amended (the "SC Code") has been filed with the City Council by each of the persons owning 100 percent of the property hereinafter described; and

WHEREAS, the petitioning owner is contiguous to the City's existing municipal boundary; and

WHEREAS, the City, consistent with Section 5-3—310 of the SC Code, may elect, at its sole option, to provide the service formerly provided by another jurisdiction within the annexed area by providing reasonable written notice that City elects to displace such provider; and

WHEREAS, upon the annexation of the property contemplated by this Ordinance, the City Council intends to provide and serve the annexed property with all available municipal services; and

WHEREAS, City Council believes that annexation of the property would be in the best interest of the City of Goose Creek; and

WHEREAS, following proper notice, and publication, the City's Planning Commission recommends that the property be assigned a zoning classification of General Commercial (GC).

TMS Number: 234-00-00-143

Property Description:

"All that certain piece, parcel or lot of land, situate, lying and being in Berkeley County, South Carolina, being shown and designated as "Lot A4" on that certain plat entitled, "Plat of the Subdivision of Tract A (5.99 AC.) Owned by Mt. Holly Associates, LLC to Create Lots Al-AS" prepared by F. Elliotte Quinn, III, of Thomas & Hutton Engineering 00., dated May 28, 2003 certified by the surveyor on June 11, 2003, and recorded on August 5, 2003 with the Berkeley County ROD Office in Plat Cabinet Q at Page 62-A. Said parcel having such size, shape, dimension, buttings and boundings as will by reference to said plat more fully appear.

THIS BEING the same property conveyed to J-Co Properties, LLC by deed of M&S Properties of Chapin, LLC dated October 27, 2020, and recorded November 02, 2020 in the ROD Office for Berkeley County in BOOK 3562 at Page 460.

SUBJECT to any and all restrictions, covenants, conditions, easements, rights of way and all other matters affecting subject property of record in the Office of the ROD for Berkeley County, South Carolina."

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the City of Goose Creek, South Carolina, this 12th day of January 2027, as follows:

1. The property herein described below are hereby annexed to and become a part of the City as of the date of enactment of this Ordinance:

In addition to the property, all public rights of way, streets, highways, and easements included in the territory hereby annexed are additionally annexed into the City.

2. Based on the recommendation of the City's Planning Commission, the Property shall be assigned a zoning classification of General Commercial (GC).

3. The City intends to provide all available municipal services to the Property. In keeping therewith, the City, acting through the Mayor or his assigns, shall be authorized to notify all necessary parties of the annexations authorized by this Ordinance and the City's intention to provide all applicable services to the Property. The Mayor or his assigns shall be further authorized to negotiate, execute and deliver any necessary agreement to memorialize the terms and provisions of any agreement contemplated by Section 5-3-311 of the SC Code in lieu of any plan to balance equities and interest under Section 5-3-312 of the SC Code. To the extent any funding is or will be committed under such agreement, and funds therefore are not otherwise budgeted in the City's then-existing budget, such funding commitment shall be subject to further approval and ratification by City Council, but should not otherwise affect or limit the terms of any agreement between the City and any displaced service provider.

4. If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held or determined to be invalid, such decision shall not affect the validity of the remaining portions of this Ordinance.

5. This ordinance shall become effective immediately upon enactment.

[SIGNATURE PAGE TO FOLLOW]

INTRODUCED the 8th of December, 2026.

DONE the _____day of _____, 2027.

_____

Mayor Gregory S. Habib

Attest:_____

Kelly J. Lovette, MMC, City Clerk

_____	_____
Mayor Pro Tem Jerry Tekac	Councilmember Debra Green-Fletcher
_____	_____
Councilmember Christopher Harmon	Councilmember Gayla S.L. McSwain
_____	_____
Councilmember Corey D. McClary	Councilmember Melissa Enos-Sims



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Aerial Map

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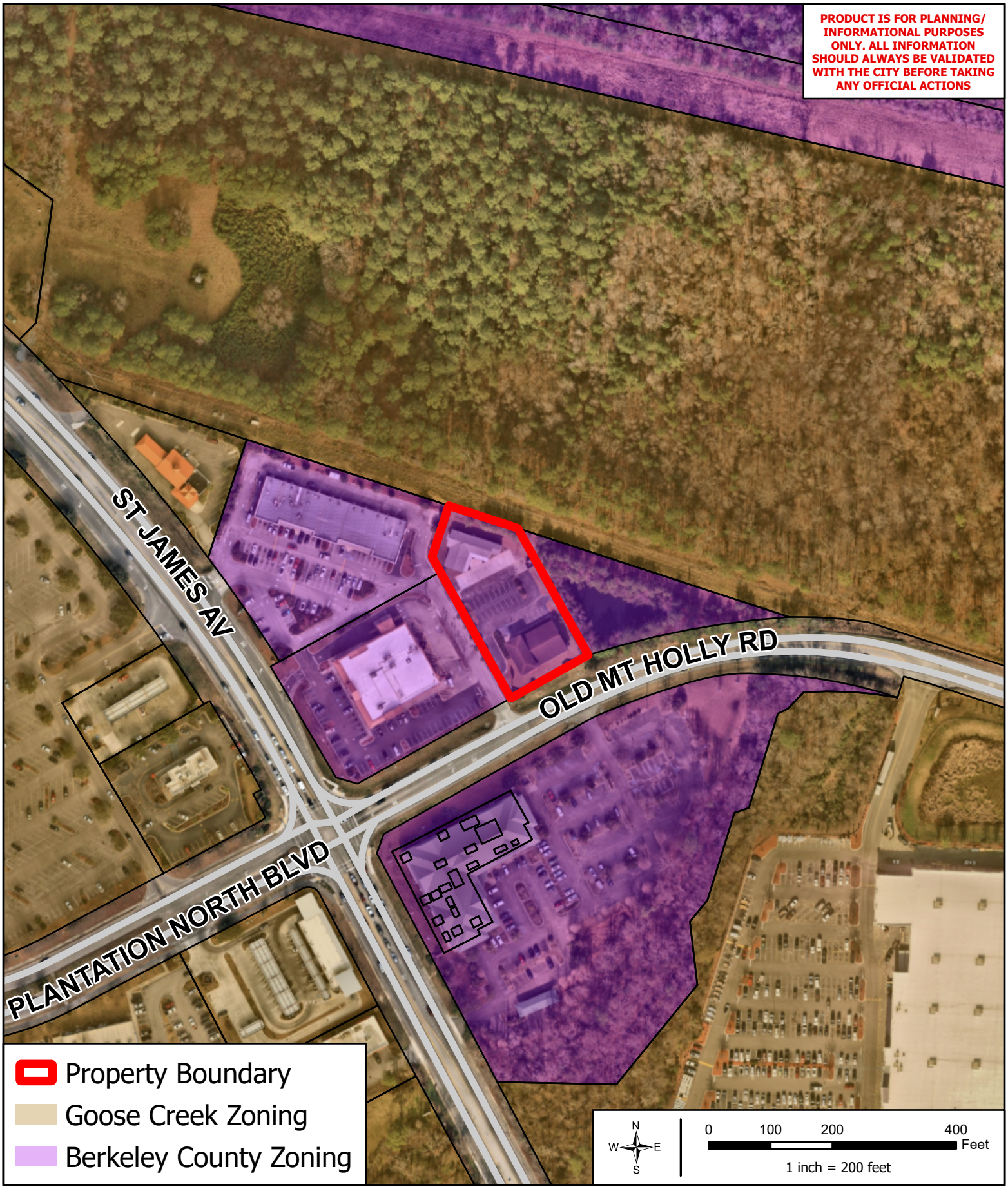
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Vicinity Map

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Zoning Map

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Goose Creek, SC 29445
(843) 797 - 6220 Ext. 1132

TMS: 234-00-00-143

Goose Creek Zoning

101

N:\Projects_City Maps_Map Series\Annexation Maps\2026\10-21-2026\2340000143\ArcGIS Pro WKSP\GC Zoning.aprx

Map as of 10/22/2026 2:20 PM



CREEK COMPASS
City of Goose Creek

City of Goose Creek GIS Division
519 N. Goose Creek Boulevard
Goose Creek, SC 29445
(843) 797 - 6220 Ext. 1132

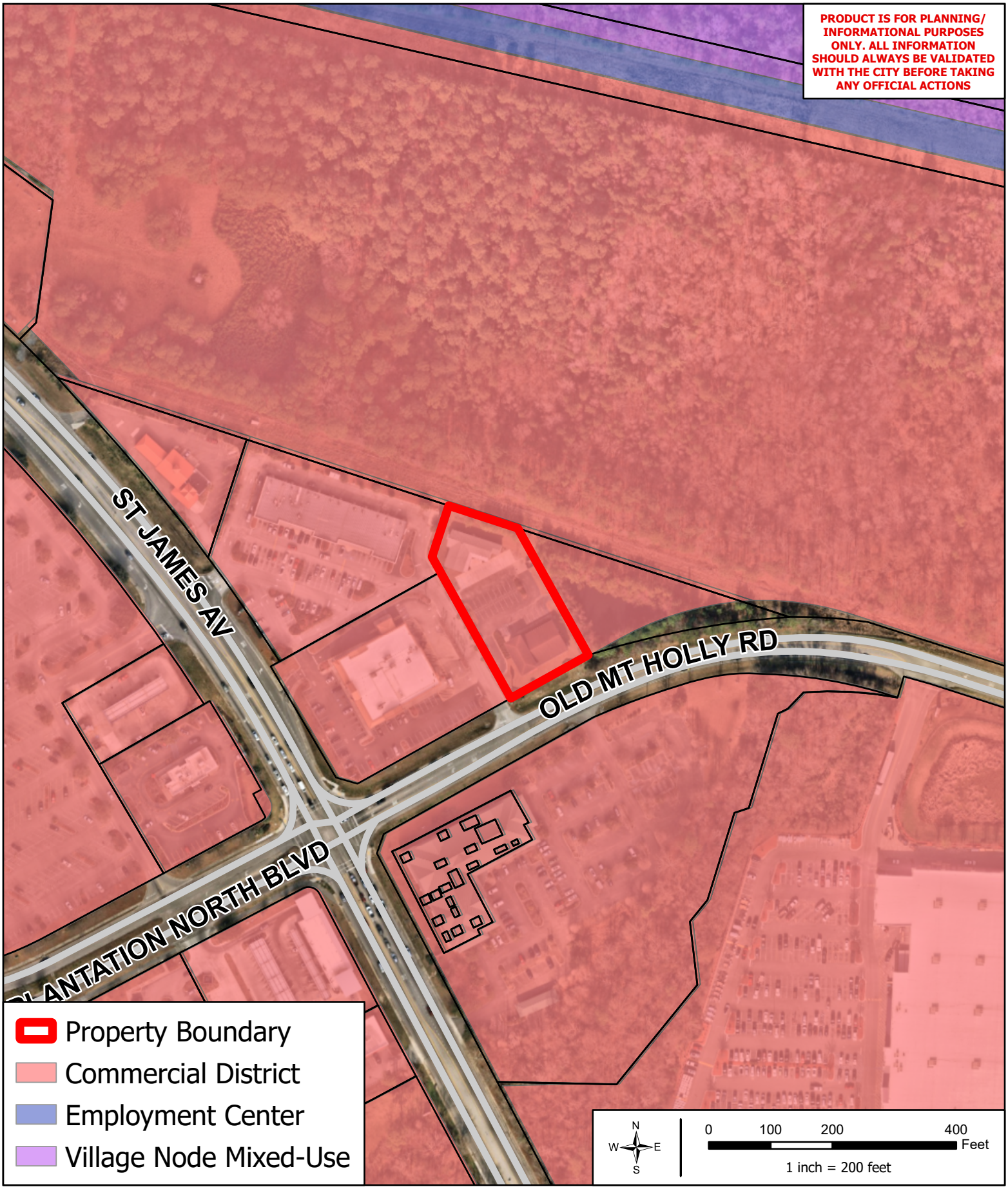
TMS: 234-00-00-143

Berkeley County Zoning

102

N:\Projects_City Maps_Map Series\Annexation Maps\2026\10-21-2026\2340000143\ArcGIS Pro WKSP\BC Zoning.aprx

Map as of 10/22/2026 2:23 PM



CREEK COMPASS
City of Goose Creek

City of Goose Creek GIS Division
519 N. Goose Creek Boulevard
Goose Creek, SC 29445
(843) 797 - 6220 Ext. 1132

TMS: 234-00-00-143

Future Land Use

103

N:\Projects_City Maps_Map Series\Annexation Maps\2026\10-21-2026\2340000143\ArcGIS Pro WKSP\Future Land Use.aprx

Map as of 10/22/2026 2:08 PM

STATE OF SOUTH CAROLINA)
)
COUNTY OF BERKELEY)

PETITION FOR ANNEXATION

The undersigned, being 100 percent of the freeholders owning 100 percent of the assessed value of the property in the contiguous territory described below and shown on the attached plat or map, hereby petition for annexation of said territory to the City off Goose Creek by ordinance effective as soon hereafter as possible, pursuant to South Carolina Code Section 5-3-150(3).

The territory to be annexed is described as follows:

Property Description:

"All that certain piece, parcel or lot of land, situate, lying and being in Berkeley County, South Carolina, being shown and designated as "Lot A4" on that certain plat entitled, "Plat of the Subdivision of Tract A (5.99 AC.) Owned by Mt. Holly Associates, LLC to Create Lots Al-AS" prepared by F. Elliotte Quinn, III, of Thomas & Hutton Engineering 00., dated May 28, 2003 certified by the surveyor on June 11, 2003, and recorded on August 5, 2003 with the Berkeley County ROD Office in Plat Cabinet Q at Page 62-A. Said parcel having such size, shape, dimension, buttings and boundings as will by reference to said plat more fully appear.

THIS BEING the same property conveyed to J-Co Properties, LLC by deed of M&S Properties of Chapin, LLC dated October 27, 2020, and recorded November 02, 2020 in the ROD Office for Berkeley County in BOOK 3562 at Page 460.

SUBJECT to any and all restrictions, covenants, conditions, easements, rights of way and all other matters affecting subject property of record in the Office of the ROD for Berkeley County, South Carolina."

Berkeley County TMS:	TMS # 234-00-00-143
Property Address:	588 Old Mt Holly Road, Goose Creek, SC 29445
Proposed Zoning:	Goose Creek General Commercial
Attachments:	Vicinity Map, Declaration of Annexation Covenant/POA to complete petition of annexation.

588 Old Mt Holly Road, Goose Creek, SC 29445

Street Address, City, State, Zip Code

Natalie Zeigler, City Administrator — Natalie M Zeigler — November 12, 2026

Print Name — Signature — Date

For Municipal Use:

Petition received by __Reagan Osbon, Annexation Coordinator_____, Date __November 12, 2026_

Description and Ownership verified by __Reagan Osbon_____, Date __November 12, 2026

DECLARATION OF ANNEXATION COVENANT RECEIVED ON SEPTEMBER 14, 2026.

ATTACHED.

By: Reagan Osbon, Date 11/12/2026

CYNTHIA B FORTE

BERKELEY COUNTY

REGISTER OF DEEDS

Po Box 6122 ~ Moncks Corner, SC 29461 (843) 719-4084

***** THIS PAGE IS PART OF THE INSTRUMENT - DO NOT REMOVE *****

Instrument #:	2026036219		
Receipt Number:	403747	**Return To:**	CITY OF GOOSE CREEK ATTN REAGAN OSBON
Recorded As:	MISCELLANEOUS DOCUMENT		PO DRAWER 1768
Recorded On:	October 06, 2026		GOOSE CREEK, SC, 29445
Recorded At:	01:50:50 PM	**Received From:**	CITY OF GOOSE CREEK ATTN REAGAN OSBON
Recorded By:	WK11	**Parties:**	
Book/Page:	RB 5733: 750 - 763		Direct- SLIM BRO OFFICE PARK LLC
Total Pages:	14		Indirect- GOOSE CREEK CITY OF

***** EXAMINED AND CHARGED AS FOLLOWS *****

Recording Fee:	$25.00
Tax Charge:	$0.00

Cynthia B. Forte

Cynthia B Forte - Register of Deeds

Doc: 202603219
Total Pages: 14

STATE OF SOUTH CAROLINA)
)
)
COUNTY OF BERKELEY)

DECLARATION OF ANNEXATION COVENANT

THIS DECLARATION OF ANNEXATION COVENANT (this "***Covenant***") is made this 14 day of September 2026 between the City of Goose Creek, South Carolina (the "***City***"), and the person or entity described below, including all successors in interest and assigns, having ownership in fee simple, life estate, or in any other designation as set forth in the Code of Laws of South Carolina 1976, as amended, or as set forth through judicial interpretation in South Carolina case law (the "***Owner***"):

( ) A corporation, incorporated under the laws of the State of _____ and organized under the name of _____ ; or

(X) A general or limited partnership, limited liability company, or limited liability partnership operating under the name of Slim Bro Office Park, LLC ; or

( ) Individual(s) by the name(s) of _____ and _____.

RECITALS:

The real property located at 588 Old Mt Holly Road, Goose Creek, SC 29445 (Tax Map Number 234-00-00-143, as further described herein at **Exhibit A**, the "***Subject Property***"), belonging to the Owner, is located outside the City's corporate limits, but is located in an area in which annexation into the City is or may become appropriate. The City is under no obligation to furnish Utility Services (as defined herein) to properties located outside of the City's corporate limits but may do so by contract with individual property owners.

The Owner wishes to obtain Utility Services from the City by contract without the necessity of waiting until the Subject Property may be annexed into the City, and the Owner has entered into a contract (the "***Utility Service Agreement***") with the City in order to secure one or more of the Utility Services for the Subject Property. In consideration for the City's provision of Utility Services to the Subject Property and the connection of the Subject Property to the City's utility system (the "***System***"), the Owner agrees, pursuant to the provisions of this Covenant, to take such action as is necessary to request annexation into the City at such time as the Subject Property becomes contiguous to the City's corporate limits. This Covenant shall be binding upon any and all assigns or successors in interest to the Owner's ownership interest in the Subject Property.

Owner understands that the obligation to execute any and every annexation petition relating to the Subject Property, when presented, is a requirement for Utility Services outside the City, and that failure to satisfy this obligation may, at the election of the City, cause discontinuance and termination of Utility Services to the Subject Property. The Owner further understands that the obligations created under this Covenant run with the land, and will apply equally to subsequent owners of the Subject Property. In order to ensure the ability of the City to enforce the provisions of this Covenant against the Owner or any subsequent owner of the Subject Property, the Owner agrees that the provisions of this Covenant shall serve as restrictive covenants against the Subject Property in favor of, and for the benefit of, the City.

NOW THEREFORE, in consideration of the provision of Utility Services by the City, the Owner hereby covenants as follows:

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1. **Recitals Incorporated.** The above recitals are hereby incorporated in and made a part of this Covenant as fully as if set forth verbatim herein. These recitals are true and correct and the Owner is bound thereby. By signing this Covenant, the Owner acknowledges reading, understanding and agreeing to each of the recitals. By and through the recording of this Covenant, all assigns and successors in interest in the Subject Property are determined to have read, understood, and agreed to each of the recitals.

2. **Utility Services.**

A. As used in this Covenant, "***Utility Services***" means and refers to water service provided by the City pursuant to the terms of the Utility Service Agreement, including but not limited to, (i) a new service tap from an existing water line, (ii) an extension of a water main at the request of the Owner; (iii) any increase or upgrade in the size of a water line, tap, or meter at the request of the Owner; or (iv) the issuance of a letter of willingness and capability to provide, increase, or upgrade Utility Services.

B. Pursuant to the provisions of the Utility Service Agreement, the City has agreed to furnish Utility Services to the Subject Property upon the terms, conditions and covenants set forth therein, in addition to any other rates, classifications, policies, procedures, and terms of service applicable to Utility Services that the City has adopted or may in the future adopt and any subsequent amendments thereto. The Owner acknowledges that in no event shall the City be obligated to provide or continue to provide Utility Services to the Subject Property, or any portion thereof, if any obligation of the Owner contained in this Covenant is breached or any covenant made by the Owner in this Covenant is false. Any actions or statements made by the City (including the issuance of any letter of willingness and capability) in connection with providing Utility Services to the Subject Property is made subject to the terms of this Covenant, and if this Covenant is breached by the Owner then all such actions or statements may be, in the City's sole discretion, declared null and void and no reliance by any entity may be placed thereon.

3. **Covenants by Owner.** The Owner makes the following covenants, warranties, agreements and representations, each of which shall be deemed material to this Covenant:

A. The Owner covenants and agrees that he will sign any and every annexation petition which relates to the Subject Property (an "***Annexation Petition***") immediately upon presentment by the City. As used in this Covenant, an Annexation Petition shall be construed to relate to the Subject Property if the property to be annexed pursuant to and described in the Annexation Petition includes the Subject Property or any portion thereof. The Owner acknowledges that a purpose of this Covenant is to ensure, as a material benefit and consideration to the City, the Owner's full and complete cooperation with any effort to annex the Subject Property, and the Owner agrees, that upon request by the City, the Owner will do, execute, acknowledge and deliver, all such further acts, agreements, and assurances as may be requested and reasonably necessary for the full completion and consummation of the purpose contemplated herein. These further acts shall specifically include, but are not limited to, signing subsequent or additional successive Annexation Petitions, in the event prior annexation efforts are unsuccessful. The Owner warrants and covenants that the Owner has not and will not subdivide the Subject Property, combine the Subject Property with other real property not subject to this Covenant, or otherwise manipulate the Subject Property for the purpose of hindering or impeding the City's ability to annex the Subject Property, and any attempt to do so will be considered a breach of this Covenant. Upon any division of the Subject Property, this Covenant shall apply to any additional properties derived from the Subject Property.

B. The Owner agrees that the obligations contained in this Covenant shall continue in full force and effect until the earlier of the following: (i) the Subject Property, in its entirety, has been successfully annexed into, and continuously lies within, the corporate limits of the City; or (ii) the Owner

GB

affirmatively requests in writing that (1) the Subject Property be permanently disconnected from the System, and (2) the Subject Property, in its entirety, is no longer served by Utility Services.

C. The Owner is the sole owner in fee simple absolute of the Subject Property. Further, the Owner covenants and warrants that he will not transfer, alienate, devise, encumber, or otherwise affect title to the Subject Property for a period of seven days from the date of this Covenant, in order to allow the City time to have this Covenant recorded in the Office of the Register of Deeds for Berkeley County, South Carolina. The Owner will inform any subsequent Owner of (i) the Subject Property, (ii) any portion of the Subject Property, or (iii) any real property that the Subject Property is made a part of, that the obligations contained in this Covenant continue and run with the land. A failure by the Owner to properly inform any successor in interest of the Subject Property of this Covenant shall not affect the validity or applicability of this Agreement with respect to any successor in interest, and any such successor in interest shall remain bound by the provisions hereof.

D. The Owner agrees that any breach of conditions of the Utility Service Agreement or any other agreements associated with the provision of Utility Services made in accordance with this Covenant, shall be a breach of this Covenant. Such conditions may include, but are not limited to, the following: (i) payment of applicable connection fees and surcharges as fixed by the City; (ii) general terms, conditions, and policies upon which Utility Service is made available by the City; and (iii) the payment to the City when due such water charges, taxes, or fees as may be imposed from time to time.

E. The Owner agrees that the effectiveness of this Covenant will continue and survive any temporary disconnection, interruption, or termination of Utility Services by the City, except for a termination of Utility Services pursuant to Section 3B(ii) above.

4. **Restrictive Covenant**. **THE OWNER HEREBY IMPOSES UPON THE SUBJECT PROPERTY FOR THE BENEFIT OF THE CITY A RESTRICTIVE COVENANT REQUIRING THAT FUTURE OWNERS OF THE SUBJECT PROPERTY, OR ANY PART THEREOF, BE BOUND BY THE SAME TERMS, CONDITIONS AND COVENANTS AS ARE SET FORTH IN THIS COVENANT. THIS RESTRICTIVE COVENANT SHALL CONTINUE IN FULL FORCE AND EFFECT UNTIL THE EARLIER OF THE FOLLOWING: (A) THE SUBJECT PROPERTY, IN ITS ENTIRETY, HAS BEEN SUCCESSFULLY ANNEXED INTO AND LIES CONTINUOUSLY WITHIN THE CORPORATE LIMITS OF THE CITY; OR (B) THE SUBJECT PROPERTY, IN ITS ENTIRETY, IS NO LONGER BEING SERVED BY THE CITY'S UTILITY SERVICES. ANY AND EVERY FUTURE OWNER OF THE SUBJECT PROPERTY, OR ANY PART THEREOF, IS BOUND BY THE TERMS CONTAINED IN THIS COVENANT BY ACCEPTANCE OF A DEED TO SUBJECT PROPERTY THAT IS SUBJECT TO THIS RESTRICTIVE COVENANT.**

5. **Recordation of Covenant**. The Owner hereby expressly agrees and directs that this Covenant and description of the Subject Property be recorded in the real estate records in the Office of the Register of Deeds for the County of Berkeley, State of South Carolina, so as to give record notice to any future prospective purchaser of the Subject Property that this Covenant is an obligation upon the land and runs with the land until the occurrence of either of the two events set forth in the preceding paragraphs.

6. **Description of Property**. This Covenant and restrictive covenant apply to the Subject Property as it is more fully described on the attached **Exhibit A**.

7. **Grant of Right of Way**. The Owner grants the City a right-of-way on and through the Subject Property as reasonably necessary for the City's operation of the System in order to provide Utility Services

to the Subject Property. In the event a standard grant of right-of-way has not been executed by the Owner before execution of this Covenant, the Owner agrees, upon request, to execute a standard right-of-way to further document and describe the specific location and rights associated therewith.

8. **Grant of Power of Attorney**. In the event the Owner fails to meet the obligations imposed herein and does not sign any Annexation Petition upon request, the Owner hereby irrevocably appoints the City Administrator of the City of Goose Creek, South Carolina, Attorney in Fact for the Owner of the Subject Property with full power to sign any Annexation Petition upon the request of the City.

9. **Owner's Use of Subject Property**. If the Owner changes the current use of the Subject Property to any different use, the City may, at its option, require additional approvals and conditions for continued Utility Service thereon.

10. **Default; Remedies**. As used in this Covenant, a default of this Covenant occurs immediately upon any breach, failure or nonoccurrence of any term, condition, obligation, affirmative act, covenant, representation or warranty. Immediately upon any default by the Owner, the City may, in its sole discretion, void this Covenant and thereby void any statements, actions or commitments by the City as to providing Utility Services to the Subject Property. Additionally, upon any default by the Owner, the City may elect to enforce this Covenant. If any effort to enforce the terms of this Covenant fails for any reason, the City may thereafter elect to rescind and void this Covenant. In the event this Covenant is rescinded or voided, the City shall be under no obligation to provide Utility Services or to continue to provide Utility Services to the Subject Property or any portion thereof. In the event of any default by the Owner of this Covenant, the City shall be entitled to recover from the Owner the costs and attorneys' fees incurred by the City as a result of or in response to the Owner's default.

11. **No Waiver**. The failure of any person or entity having any right, title or interest in the Subject Property, or any portion thereof, including the Owner and his respective heirs, successors, successors in title and assigns or the City, to bring an action to enforce this Covenant, shall not operate as a waiver of the right to do so for any later subsequent violations or the right to enforce any other part of this Covenant at any future time. The failure of any person or entity having any right, title or interest in the Subject Property, or any portion thereof, including the Owner and his respective heirs, successors, successors in title and assigns or the City to exercise or to delay in exercising any right or remedy available hereunder or at law or in equity shall not operate as a waiver. Notice of default or violation shall not be deemed as a condition precedent to the exercise of any right or remedy available hereunder or at law or in equity. Should any person or entity having any right, title or interest in the Subject Property, or any portion thereof, including the Owner and their respective heirs, successors, successors in title and assigns or the City fail to bring an action for enforcement of this Covenant or seek any other remedy allowed at law or in equity such shall not create any liability for the recovery of damages for the failure to so act.

12. **Remedies Cumulative**. Every right and remedy provided in this Covenant is distinct from and cumulative to every other right or remedy under this Covenant or available at law or in equity. The provision of certain rights and remedies in this Covenant does not abrogate, limit or affect any rights or remedies as provided at law or in equity. Every right and remedy may be exercised concurrently, independently or successively.

13. **Exhibits Incorporated by Reference**. All exhibits referenced in this Covenant are incorporated herein as integral parts of this Covenant and shall be considered reiterated herein as fully as if such provisions had been set forth verbatim in this Covenant.

14. **Copies**. A photostatic or other reproduction of this document shall be as effective, valid and conclusive as the original.

15. **Modification**. The terms of this Covenant may be modified in whole or in part only by a written instrument signed by both the Owner and the City. Any oral agreement to modify this Covenant shall be void and of no force and effect.

16. **Captions**. The captions and headings of the Paragraphs of this Covenant are for convenience only and may not be used to interpret or define the provisions of this Covenant.

17. **No Waiver**. No waiver of a breach of any of the covenants or promises of this Covenant shall be construed as a waiver of any succeeding breach of the same or other covenant or promise.

18. **Severability**. In the event that any provision or clause of this Covenant conflicts with any applicable law, the other provisions of this Covenant shall be given effect as fully as possible without the conflicting provision, and to this end the provisions of this Covenant are declared to be severable.

19. **References Herein**. Wherever appropriate, all words herein in the male gender shall be deemed to include the female or neuter gender, all singular words shall include the plural, and all plural words shall include the singular.

20. **Successors and Assigns**. The covenants and agreements contained in this Covenant and the obligations created hereunder shall ensure to the benefit of and be binding on the City, the Owner and all heirs, successors and assigns of the Owner to the Subject Property, or any part thereof.

21. **Governing Law and Forum**. The validity, construction and effect of this Covenant shall be governed by the laws of the State of South Carolina, and the Owner hereby consents to the exclusive jurisdiction of the courts of the State of South Carolina for resolution of any dispute arising hereunder

22. **Sealed Instrument**. Owner agrees that by signing below he intends to place his hands and seals upon this Covenant and that this Covenant shall be considered in every respect to be a sealed instrument.

23. **Effective Date**. This Covenant shall be effective upon the date of the last party affixing his signature.

[Remainder of Page Left Blank]

IN WITNESS WHEREOF, the Owner duly executes this Declaration of Annexation Covenant as of the date first written above.

WITNESS #1

Caroline Hurley

Print Name: Caroline Hurley

WITNESS #2 (Notary Public)

Edward Oswald

Print Name: EDWARD G. OSWALD

OWNER OF SUBJECT PROPERTY

Print Name: Gene Brown, MD
Owner, Slim Bro Office Park LLC

STATE OF SOUTH CAROLINA)
)
COUNTY OF BERKELEY)

ACKNOWLEDGEMENT

I, Edward Oswald Notary Public for the State of South Carolina, do hereby certify that the Owner of the Subject Property shown above, by and through Gene Brown personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Subscribed to and sworn to before me this 15th day of September 2024.

Notary Public for South Carolina
Print Name: EDWARD G. OSWALD
My Commission Expires: 2036

The City, acting through the undersigned, hereby accepts the Declaration of Annexation Covenant set forth herein.

CITY OF GOOSE CREEK, SOUTH CAROLINA

Reagen M. Ose

Exhibit A

Legal Description of Property/Copy of Deed

Property located at 588 Old Mt Holly, Goose Creek, SC 29445. TMS # 234-00-00-143

OSWALD · COOKE
LAND AND INVESTMENT REAL ESTATE

September 16th, 2026

City of Goose Creek
519 N Goose Creek Blvd,
Building B
Goose Creek, SC 29445

Re: Owner of Slim Bro Office Park, LLC

To Whom it May Concern,

This letter is being provided as additional documentation in support of the Declaration of Annexation Covenant that has been signed, notatized, and submitted to the City of Goose Creek.

This letter confirms that Slim Bro Office Park, LLC is the owner of the property located at 588 Old Mt Holly Road, Goose Creek, SC 29445.

Slim Bro Office Park is owned and operated by Gene Brown. OCA Property Management serves as the property management company for this property and is authorized to assist with matters related to its management and administration.

Should you require any additional information, documentation, or clarification regarding the Declaration of Annexation Covenant, please do not hesitate to contact our office.

Thank you for your assistance.

Sincerely,

Gene Brown
Slim Bro Office Park, LLC

CYNTHIA B FORTE
BERKELEY COUNTY
REGISTER OF DEEDS

Po Box 6122 ~ Moncks Corner, SC 29461 (843) 719-4084

***** THIS PAGE IS PART OF THE INSTRUMENT - DO NOT REMOVE *****

***** ELECTRONICALLY RECORDED DOCUMENT *****

Instrument #:	2022029734		
Receipt Number:	266427	**Return To:**	
Recorded As:	EREC-DEED		
Recorded On:	July 26, 2022		
Recorded At:	11:28:48 AM	**Received From:**	SIMPLIFILE
Recorded By:	JAMIE WIEMANN	**Parties:**	
Book/Page:	RB 4319: 694 - 698		Direct- J-CO PROPERTIES LLC
Total Pages:	5		Indirect- SLIM BRO OFFICE PARK LLC

***** EXAMINED AND CHARGED AS FOLLOWS *****

Recording Fee:	$15.00
Consideration:	$1,500,000.00
County Tax:	$1,650.00
State Tax:	$3,900.00
Tax Charge:	$5,550.00

RECEIVED

JUL 26, 2022

ASSESSOR
BERKELEY COUNTY SC
JANET B. JUROSKO
AUDITOR BERKELEY COUNTY SC

Cynthia B. Forte

Cynthia B Forte - Register of Deeds

STATE OF SOUTH CAROLINA)
)
COUNTY OF BERKELEY)

TITLE TO REAL ESTATE

KNOW ALL MEN BY THESE PRESENTS, that ***J-Co Properties, LLC, a South Carolina limited liability company,*** *(hereinafter whether singular or plural the "Grantor") in the State aforesaid, for and in consideration of the sum of* ***ONE MILLION FIVE HUNDRED THOUSAND AND 00/100 ($1,500,000.00) DOLLARS, and subject to the*** *restrictions,* ***exceptions and limitations hereinafter set forth, if any,*** *to the Grantor paid by* ***SLIM BRO Office Park, LLC, a South Carolina limited liability company,*** *(hereinafter whether singular or plural the "Grantee") have granted, bargained, sold and released, and, by these presents, do grant, bargain, sell and release unto the said* ***SLIM BRO Office Park, LLC, a South Carolina limited liability company*** *its Successors and/or Assigns, forever, in fee simple, the following described real property, to-wit:*

All that certain piece, parcel or lot of land, situate, lying and being in Berkeley County, South Carolina, being shown and designated as "Lot A4" on that certain plat entitled, "Plat of the Subdivision of Tract A (5.99 AC.) Owned by Mt. Holly Associates, LLC to Create Lots A1-AS" prepared by F. Elliotte Quinn, III, of Thomas & Hutton Engineering 00., dated May 28, 2003 certified by the surveyor on June 11, 2003, and recorded on August 5, 2003 with the Berkeley County ROD Office in Plat Cabinet Q at Page 62—A. Said parcel having such size, shape, dimension, buttings and boundings as will by reference to said plat more fully appear.

THIS BEING the same property conveyed to J-Co Properties, LLC by deed of M&S Properties of Chapin, LLC dated October 27, 2020 and recorded November 02, 2020 in the ROD Office for Berkeley County in BOOK 3562 at Page 460.

SUBJECT to any and all restrictions, covenants, conditions, easements, rights of way and all other matters affecting subject property of record in the Office of the ROD for Berkeley County, South Carolina.

TMS Number: ***234-00-00-143***

Grantee's Address: ***204 Wandolea Drive, Mount Pleasant, SC 29464***

Together with all and singular the rights, members, hereditaments and appurtenances to the said premises belonging or in anywise incident or appertaining.

Payne Law Firm, LLC
280 Seven Farms Drive, Suite A
Daniel Island, SC 29492

TO HAVE AND TO HOLD all and singular the said premises before mentioned unto the said Grantee, ***SLIM BRO Office Park, LLC, a South Carolina limited liability company,*** *its Successors and/or Assigns forever.*

And the Grantor does hereby bind the Grantor and the Grantor's Successors and/or Assigns, Executors and Administrators, to warrant and forever defend all and singular the said premises unto the said Grantee hereinabove named and the Grantee's Successors and/or Assigns against the Grantor and the Grantor's Successors and/or Assigns and against every person whomsoever lawfully claiming, or to claim, the same or any part thereof.

WITNESS our hands and seals this 21 *day of July, 2022 and in the Two Hundred Forty-Seventh (247th) year of the Sovereignty and Independence of the United States of America.*

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF:

J-Co Properties, LLC, a South Carolina limited liability company

Pamela M Mitchum
Witness #1

by J. Deryel Cumbie, its Member

Lori S Harrison
Witness #2

NAMES MUST BE SIGNED EXACTLY AS THEY ARE TYPED

STATE OF SOUTH CAROLINA)
) *ACKNOWLEDGMENT*
COUNTY OF Berkeley)

THE FOREGOING instrument was acknowledged before me by J. Deryel Cumbie as Member J-Co Properties, LLC on this 21 *day of July, 2022.*

LORI S HARRISON
My Commission Expires
NOTARY PUBLIC
02-27-2028
STATE OF SOUTH CAROLINA

Lori S Harrison
Notary Public for: South Carolina
My Commission Expires:
2022-594LW

STATE OF SOUTH CAROLINA)
) **AFFIDAVIT**
COUNTY OF BERKELEY)

Date of Transfer of Title
July 22, 2022

PERSONALLY appeared before me the undersigned, who being duly sworn, deposes and says:

1. I have read the information on this Affidavit and I understand such information.

2. The property is being transferred by J-Co Properties, LLC TO SLIM BRO Office Park, LLC ON July 22, 2022.

3. Check one of the following: The deed is:
(a)__x__ subject to the deed recording fee as a transfer for consideration paid or to be paid in money or money's worth.
(b)_____subject to the deed recording fee as a transfer between a corporation, a partnership or other entity and a stockholder, partner, or owner of the entity, or is a transfer to a trust or as a distribution to a trust beneficiary.
(c)_____EXEMPT from the deed recording fee because (Exemption n/a) (Explanation, if required: n/a) If exempt, please skip items 4-6 and go to Item #7 of this affidavit.

4. Check one of the following if either item 3(a) or item 3(b) above has been checked.
(a)_x__The fee is computed on the consideration paid or to be paid in money or money's worth in the amount of $1,500,000.00
(b) The fee is computed on the fair market value of the realty, which is n/a
(c) The fee is computed on the fair market value of the realty as established for property tax purposes which is n/a

5. Check YES_____or NO__X__to the following: A lien or encumbrance existed on the land, tenement or realty before the transfer and remained on the land, tenement or realty after the transfer. If "YES", the amount of the outstanding balance of this lien or encumbrance is n/a.

6. The DEED Recording Fee is computed as follows:
(a)$1,500,000.00 the amount listed in Item #4 above
(b)_____ the amount listed on Item #5 above (no amount, please zero)
(c)$1,500,000.00 subtract Line 6(b) from Line 6(a) and place the result here.

7. As required by Code Section 12-24-70, I state that I am a responsible person who was connected with the transaction as Grantor, Grantee or Legal Representative.

8. I understand that a person required to furnish this affidavit who willfully furnishes a false or fraudulent affidavit is guilty of a misdemeanor and, upon conviction, must be fined not more than one thousand dollars or imprisoned not more than one year or both.

Grantor, Grantee or Legal Representative

Print or Type Name Here

SWORN to before me this
07/22/2022

Notary Public for South Carolina
My Commission expires: 7/8/24

MARIA C. ROSENETTE
NOTARY PUBLIC
SOUTH CAROLINA

Request for City Council Agenda Item

To: Mayor and City Council

From: Natalie Zeigler

Please check one box

☐ Regular Meeting ☐ Special Meeting

☐ Work Session

Please check one box, if applicable

☐ Ordinance ☐ Resolution ☐ Proclamation ☐ Request to Purchase

Ordinance/Resolution Title

DISCUSSION OF FIRE DEPARTMENT SHIFT SCHEDULE ASSESSMENT

Background Summary

Center for Public Safety Management will present the study commissioned by the Mayor and City Council.

Financial Impact

Impact if denied

Impact if approved

Department Head: _____ *Signature & Date*

City Administrator: _____ *Signature & Date*

CENTER FOR PUBLIC SAFETY MANAGEMENT, LLC

Fire Department Shift Schedule Assessment

Goose Creek Fire Department

Goose Creek, SC



Image Credit: The Berkley Independent

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International City/County Management Association (ICMA)

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Center for Public Safety Management

The ICMA Center for Public Safety Management (ICMA/CPSM) was launched by ICMA to provide support to local governments in the areas of law enforcement, fire, Emergency Medical Services (EMS), emergency management, and 911-Communication Centers. CPSM also represents local governments at the federal level and has been involved in numerous projects with the Department of Justice and the Department of Homeland Security. Further, CPSM provides training and research for ICMA members and represents ICMA in its dealings with public safety professional associations such as CALEA, PERF, IACP, IAFC, PSHRA, DOJ, BJA, COPS, and NFPA.

In 2014 as part of a restructuring at ICMA, CPSM spun out of ICMA as a separate company and is now the exclusive provider of public safety technical assistance for ICMA. The *Center for Public Safety Management, LLC,* maintains the same team of individuals performing the same level of service that it had as an ICMA internal program.

As an organization, CPSM has more than 15 years of experience performing fire, EMS, law enforcement, and 911 Communication Center agencies nationwide using our unique methodology of aligning our comprehensive workload and response analysis with industry standards and best practices, and our client's issues and challenges. Our overall experience includes more than 500 such public safety studies in 46 states and provinces and 450+ communities ranging in population size from 269 (Bald Head, NC) to 4.4 million (Maricopa County, AZ).

The CPSM project teams offer years of practitioner, first line supervisory, middle management, and senior leadership experience in the fire, rescue, EMS, emergency management, law enforcement, and 911-Center disciplines; and a record of research, academic, teaching, and training. Our team comprises true industry subject matter experts, not research assistants, interns, or generic management consultants.

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The Center for Public Safety Management (CPSM) extends its sincere appreciation to the City of Goose Creek, Mayor Habib, City Administration, and the Goose Creek Fire Department for their cooperation, professionalism, and assistance throughout the completion of this Shift Schedule Analysis. The willingness of City officials, Fire Department leadership, and personnel at all levels of the organization to provide information, participate in discussions, share their operational experiences, and candidly discuss the strengths and challenges associated with the department's current work schedule was invaluable to CPSM's analysis.

This undertaking represents a significant commitment by the City of Goose Creek and the Goose Creek Fire Department to the continued effectiveness, sustainability, and well-being of its fire and emergency services workforce. A shift schedule analysis extends beyond simply comparing alternative work schedules. It requires consideration of how various scheduling models affect staffing and deployment, operational readiness, employee workload, overtime and leave utilization, training opportunities, workforce recruitment and retention, work-life balance, organizational culture, and the City's ability to fund and maintain reliable emergency response capabilities.

CPSM's analysis is intended to provide City and Fire Department leadership with an objective framework for evaluating the current shift schedule and potential alternatives. Fire service scheduling decisions involve interconnected operational, financial, organizational, and workforce considerations. Changes to a shift schedule can affect not only the number and duration of shifts worked by individual employees, but also staffing continuity, leave coverage, overtime requirements, training and administrative activities, employee fatigue and recovery, and the overall resiliency of the emergency response system. Accordingly, the evaluation of alternative schedules must consider both the needs of the organization and the personnel responsible for delivering emergency services.

The successful completion of this effort reflects a shared commitment to transparency, collaboration, and continuous improvement on the part of the City of Goose Creek, Fire Department leadership, and department personnel. The participation of Fire Department employees was particularly important, as their experience and perspectives provided CPSM with a greater understanding of the practical realities associated with the current schedule and the potential advantages, disadvantages, and operational implications of alternative scheduling models.

The analysis is not intended to identify a shift schedule based solely on employee preference or organizational convenience; rather, it provides a foundation for determining which scheduling approach, or combination of approaches, most appropriately balances the operational requirements of the Fire Department with the long-term needs of its workforce and the community it serves.



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PREFACE

The City of Goose Creek, South Carolina, recognizes that the effectiveness and sustainability of its fire and emergency services depend not only on the number of personnel available, but also on how those personnel are scheduled, deployed, and supported throughout the year. Fire department shift schedules have significant operational, financial, and workforce implications and can directly influence staffing reliability, overtime expenditures, employee fatigue, leave utilization, training opportunities, recruitment and retention, and overall workforce well-being.

The City of Goose Creek engaged the Center for Public Safety Management (CPSM) to conduct a Fire Department Shift Schedule Analysis of the Goose Creek Fire Department (GCFD). The purpose of this analysis is to evaluate the department's current shift schedule and alternative scheduling models and provide the City with an objective assessment of the advantages, disadvantages, costs, operational impacts, and workforce considerations associated with each option.

Unlike a comprehensive fire services assessment, this study is specifically focused on the manner in which the department schedules its operational workforce. A fire department schedule must provide continuous staffing 24 hours a day, 365 days a year while accommodating regular leave, sick leave, training, vacancies, injury leave, military leave, and other planned and unplanned absences. Consequently, the structure of a shift schedule can have effects extending well beyond the hours personnel are assigned to work.

CPSM's analysis considers the relationship between shift scheduling and the department's overall staffing requirements, including scheduled work hours, staffing factors, leave usage, overtime, callback requirements, minimum staffing needs, and the number of personnel necessary to reliably fill operational positions. The analysis also considers applicable provisions of the Fair Labor Standards Act (FLSA), particularly those governing fire protection personnel, as well as relevant collective bargaining or personnel provisions where applicable.

An important component of the analysis is the impact of scheduling alternatives on the workforce itself. Contemporary fire departments increasingly consider fatigue management, sleep disruption, work-life balance, commuting patterns, secondary employment, employee wellness, and recruitment and retention when evaluating shift schedules. While longer-duration shifts may provide employees with extended periods away from work, they can also increase the potential for fatigue when personnel experience sustained or high nighttime emergency response activity. Conversely, schedules involving more frequent reporting periods may reduce continuous duty hours but can create different challenges related to commuting, family schedules, leave utilization, and workforce satisfaction.

CPSM also recognizes that there is no single shift schedule that is universally appropriate for every fire department. Scheduling models must be evaluated within the context of the individual organization, including emergency workload, nighttime call activity, staffing levels, leave patterns, overtime experience, organizational culture, financial impacts, and the operational needs of the community. A schedule that functions effectively in one department may produce substantially different outcomes in another.

Accordingly, CPSM evaluates the scheduling alternatives available to the Goose Creek Fire Department from several perspectives, including operational readiness, staffing efficiency, fiscal impact, employee health and wellness, recruitment and retention, leave management, overtime exposure, and long-term organizational sustainability. Where appropriate, the analysis

also compares the Department's practices with commonly utilized fire service scheduling models and relevant industry practices.

The findings and recommendations presented in this report are intended to provide the City of Goose Creek and the Goose Creek Fire Department with a practical framework for determining which shift schedule best balances the needs of the community, the operational requirements of the Department, the fiscal responsibilities of the City, and the health and well-being of its personnel. Ultimately, the objective is to identify a scheduling model that supports reliable emergency response while providing a sustainable workforce structure capable of serving Goose Creek both today and into the future.



Image Credit-GCFD Facebook

THE CITY OF GOOSE CREEK

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EXECUTIVE SUMMARY

The City of Goose Creek, South Carolina retained the Center for Public Safety Management (CPSM) to conduct a comprehensive Shift Schedule Assessment of the Goose Creek Fire Department (GCFD). The primary purpose of this assessment is to evaluate the department's existing operational shift schedules, examine alternative scheduling models, assess the personnel and financial implications of transitioning to a four-platoon system, and identify opportunities to improve employee health and wellness, recruitment, retention, operational readiness, and long-term workforce sustainability.

This assessment comes at an important point in the continued growth and development of the City of Goose Creek. The city's population has increased from 35,938 residents in 2010 to an estimated 52,010 in 2025, representing approximately 45 percent growth over this period. Continued residential and commercial development, expanding transportation activity, and the anticipated opening of the city's fourth fire station in the Carnes area in February 2027 reinforce the importance of maintaining a reliable, appropriately staffed, and sustainable fire and emergency medical services delivery system.

The GCFD is a full-time career fire and EMS organization providing fire suppression, advanced life support emergency medical transportation, technical rescue, hazardous materials response, community risk reduction, and other all-hazards emergency services. The department has 78 authorized personnel, including 70 field operational positions. Its existing operational staffing structure consists of 54 personnel assigned to three platoons working a traditional 24-hour-on/48-hour-off (24/48) schedule, supplemented by 16 personnel assigned to four-platoon schedules supporting the primary Medic unit and Firefighter/Paramedic float positions.

The department currently maintains a maximum daily staffing complement of 22 personnel and a minimum staffing level of 21. Its staffing model includes two designated Firefighter/Paramedic float positions that provide relief for scheduled and unscheduled employee absences. The combination of these float positions and the one-person difference between maximum and minimum staffing provides the potential to absorb as many as three daily vacancies before additional staffing is necessary, provided the available personnel possess the required ranks, certifications, and operational qualifications.

CPSM assesses that the GCFD's existing shift schedule framework presents a significant workforce sustainability challenge that extends beyond the distribution of employee work hours. The schedule influences employee recovery, fatigue, family responsibilities, recruitment competitiveness, retention, overtime expenditures, and the department's ability to consistently maintain its established minimum staffing levels. Accordingly, the potential transition to a four-platoon schedule should be viewed as a long-term organizational investment rather than simply an adjustment to employee work schedules.

Recruitment, Retention, and Workforce Sustainability

One of the most significant findings of this assessment involves the department's history of operational employee turnover and the relationship between employee retention, available time away from work, and mandatory overtime.

Between 2016 and 2025, the GCFD experienced 154 operational employee departures, averaging approximately 15 employees annually. Turnover peaked in 2022 with 23 departures, declined to 11 in 2024, and increased to 17 in 2025. The 2025 total represents an increase of approximately 55 percent over the previous year.

These departures represent more than the loss of individual employees. They also result in the loss of institutional knowledge, operational experience, specialized certifications, supervisory capabilities, and the considerable financial and organizational investment necessary to recruit, train, and develop career firefighters and paramedics. Vacancies resulting from turnover also place additional staffing demands on remaining employees, particularly when the department must maintain minimum staffing levels regardless of the number of vacant authorized positions.

GCFD personnel have reported that some employees leave the department to return to northern states or communities where family members reside. A contributing factor identified during this assessment is the limited opportunity for extended travel and family visits under the existing 24/48 schedule. Although employees receive 48 hours away from duty following each scheduled 24-hour shift, that time may be further reduced by overnight sleep interruptions, recovery needs, commuting, and overtime assignments.

Although mandatory overtime represented approximately eight percent of total overtime and backfill hours, its impact on employees is particularly important because it reduces their ability to control scheduled time away from work. Repeated forced hires can interrupt recovery periods, interfere with family responsibilities, limit travel opportunities, and create uncertainty regarding the reliability of scheduled days off.

CPSM assesses that the combination of sustained employee turnover, significant overtime and backfill requirements, and recurring forced hires creates a potential cycle in which staffing vacancies generate additional work for remaining employees, potentially contributing to fatigue, dissatisfaction, and further turnover.

Improving recruitment and retention must therefore remain a central consideration in the City's evaluation of alternative shift schedules. A schedule that provides longer and more predictable periods away from duty may improve the department's ability to retain experienced personnel while strengthening its competitiveness in recruiting new firefighters and paramedics.

Employee Shift Schedule Survey

As part of this assessment, CPSM administered a comprehensive employee survey to evaluate workforce perceptions regarding the current shift schedule, employee well-being, recovery time, morale, recruitment and retention, and alternative scheduling preferences.

The survey received 64 responses from the department's 70 operational personnel, representing a participation rate of 91.4 percent. This level of participation provides a strong indication of workforce sentiment and demonstrates the importance employees place on the department's future scheduling decisions.

The results identified substantial dissatisfaction with the existing schedule and strong support for considering alternatives.

Selected employee survey findings

- Believe a different schedule would improve recruitment.
  - ✓ 100%
- Believe a different schedule would improve retention.
  - ✓ 98.44%

- Support continued exploration of alternatives.
  - ✓ 92.19%
- Dissatisfied with current work-life balance.
  - ✓ 87.5%
- Believe current schedule contributes to fatigue.
  - ✓ 82.81%
- Prefer the existing EMS-style four-platoon schedule.
  - ✓ 82.54%

Percentages reflect responses to the respective survey questions and are not independently measured operational outcomes.

Additionally, more than 73 percent of respondents indicated that a schedule change would influence their personal decision to remain with the department. No respondents selected retaining the existing schedule as their preferred option when presented with alternative scheduling models.

The survey also identified a willingness among many employees to accept temporary operational and administrative adjustments necessary to implement a new schedule. More than 68 percent indicated a willingness to delay implementation if additional staffing was necessary to ensure a safe transition.

CPSM assesses that the employee survey provides compelling evidence that shift scheduling has become an important recruitment, retention, and employee wellness issue within the GCFD. While survey responses represent employee perceptions rather than independently verified reductions in fatigue or turnover, the consistency of these findings warrants serious consideration by City leadership.

Shift Schedule Alternatives

CPSM evaluated four operational scheduling configurations, including the existing three-platoon schedule, an alternative three-platoon rotation, and two four-platoon alternatives.

Shift schedule	Average weekly hours	Principal consideration
Existing 3-platoon 24/48	56	Maintains existing staffing and deployment structure.
Alternative 3-platoon 24/24/24/24/24/96	56	Provides recurring 96-hour break without adding a platoon.
Proposed 4-platoon 24/24/24/120	42	Provides recurring 120-hour recovery period.
Alternative 4-platoon 24/72	42	Provides 72 hours off following every duty tour.

The existing 24/48 schedule offers staffing efficiency because three platoons provide continuous coverage without the additional personnel required for a fourth platoon. However, its principal disadvantages include the frequency of scheduled duty tours, limited recovery time between shifts, and the potential for mandatory overtime to further reduce off-duty periods.

The modified three-platoon schedule provides employees with a recurring 96-hour period away from duty, which may improve opportunities for family activities, travel, and personal responsibilities. However, it retains the same approximate 56-hour average workweek and annual scheduled hours as the existing schedule. It also concentrates three 24-hour duty tours into a relatively short period, potentially increasing short-term fatigue exposure when employees experience significant overnight emergency activity.

The proposed four-platoon 24/24/24/120 schedule would reduce the average scheduled workweek from 56 to 42 hours and provide employees with 120 consecutive hours away from duty following their second scheduled 24-hour tour. This model is particularly attractive from a recruitment and retention perspective because it provides extended periods away from work for recovery, family activities, and travel.

An alternative four-platoon 24/72 schedule would provide 72 consecutive hours away from duty following every 24-hour tour. Although it does not provide the five-day recovery period associated with the 24/24/24/120 schedule, it distributes work periods more evenly and eliminates the requirement to return to duty after only 24 hours away from the station.

Both four-platoon alternatives require the same staffing complement, produce the same average annual scheduled work hours, and have equivalent modeled personnel costs.

CPSM assesses that either four-platoon alternative represents a meaningful improvement in scheduled recovery opportunities compared with the existing 24/48 schedule. The selection between the two should be based primarily on employee wellness, recovery patterns, operational requirements, workforce preferences, and organizational sustainability rather than baseline personnel expenditures.

Personnel Requirements and Staffing Implications

Transitioning the GCFD's existing three-platoon operational positions to a four-platoon system would require the addition of 18 operational personnel, increasing the staffing complement for these functions from 54 to 72 positions.

This represents a 33.3 percent increase in the number of personnel assigned to the affected operational staffing structure. The additional positions would allow the department to maintain its established daily deployment while distributing the required operational coverage across four rather than three platoons.

The additional staffing complement would include the supervisory, apparatus-operating, firefighting, and other qualified personnel necessary to establish a fourth operational platoon. The transition would also require a fourth Battalion Chief position, which could be filled through an external recruitment process or an internal promotion.

CPSM's analysis contemplates recruiting both entry-level firefighters and lateral candidates who possess recognized certifications and prior operational experience. Lateral recruitment may provide opportunities to accelerate staffing readiness, while entry-level recruitment supports the development of a longer-term workforce pipeline.

Importantly, the transition should not be implemented simply by redistributing existing personnel across four platoons without providing the additional staffing necessary to sustain minimum daily deployment. Doing so could increase vacancies on individual platoons and create additional overtime requirements, potentially diminishing the anticipated employee wellness and retention benefits.

CPSM assesses that maintaining appropriate float and relief capacity will remain essential regardless of the selected shift schedule. The current two designated Firefighter/Paramedic float positions provide important staffing flexibility; however, the department should continue evaluating whether this complement is sufficient to accommodate employee leave, training, injuries, vacancies, and other absences as the operational workforce expands.

Financial Analysis

The transition to a four-platoon schedule represents a significant recurring financial commitment for the City of Goose Creek. CPSM's comparative cost analysis evaluates the personnel expenditures associated with the alternative schedules, including regular compensation, scheduled FLSA overtime, and employee benefits.

Modeled Annual Personnel Expenditures

Schedule	Personnel Costs
Existing 24/48 — 14-day FLSA	$6,641,104
Existing 24/48 — 28-day FLSA	$6,554,122
Modified 3-platoon — 14-day FLSA	$6,673,723
Modified 3-platoon — 28-day FLSA	$6,554,122
Four-platoon 24/24/24/120	$8,443,064
Four-platoon 24/72	$8,443,064

Comparative planning estimates originate from the existing 24/48 schedule with a 14-day FLSA work period as the baseline.

Under the modeled financial assumptions, transitioning to either four-platoon alternative would increase annual personnel expenditures by approximately $1.80 million, or 27.1 percent, compared with the existing three-platoon schedule and 14-day FLSA work period.

The principal financial consideration is the addition of 18 operational personnel rather than the specific four-platoon rotation selected.

The analysis also demonstrates that changing the existing three-platoon schedule from a 14-day to a 28-day FLSA Section 207(k) work period could produce modeled annual savings of approximately $86,982, or 1.3 percent, while retaining the current staffing configuration. However, this alternative would not address the frequency of scheduled duty tours or the limited recovery periods identified as concerns by employees.

FLSA and Overtime Considerations

An important financial and operational distinction between the three-platoon and four-platoon alternatives involves the reduction in scheduled annual work hours.

Under the existing three-platoon schedule, employees average approximately 56 scheduled hours per week. Under either four-platoon alternative, employees would average approximately 42 scheduled hours per week, representing a 25 percent reduction in scheduled work hours.

CPSM's analysis contemplates maintaining annual base salaries during this transition. Consequently, reducing the annual hours associated with those salaries increases the employee's calculated hourly rate. While this represents a meaningful compensation and workforce benefit, it also affects the cost of overtime hours worked under the new schedule.

Both four-platoon alternatives eliminate regularly scheduled FLSA overtime under the evaluated 14-day and 28-day Section 207(k) work periods. However, the elimination of schedule-generated overtime should not be confused with the elimination of operational overtime.

GCFD will continue to require relief staffing and overtime for annual leave, sick leave, training, injuries, vacancies, and other staffing requirements. Because overtime hourly rates would increase under the four-platoon compensation model, the City must carefully evaluate how many overtime hours will continue to be necessary to maintain minimum staffing.

CPSM assesses that any anticipated reduction in overtime expenditures resulting from improved retention, fewer vacancies, or reduced forced hires should be considered a potential long-term benefit rather than a guaranteed financial savings.

Implementation Alternatives

Recognizing the significant personnel investment necessary to establish a fourth platoon, CPSM evaluated one-, two-, and three-year implementation alternatives.

The one-year alternative contemplates hiring all 18 additional operational personnel during FY 2027 and implementing the four-platoon schedule beginning in January 2028, once all positions are filled and required promotions are completed. This approach would accelerate the workforce benefits associated with the new schedule but require the City to fund and recruit the additional staffing complement within a relatively compressed period.

The two-year alternative would distribute hiring and personnel expenditures across FY 2027 and FY 2028. The first year assumes half-year funding for new positions and continued use of the existing three-platoon compensation rates. The second year would complete the hiring process and establish the fourth platoon using the corresponding four-platoon compensation structure.

This alternative provides additional time for recruitment, training, promotional processes, and budget planning while allowing the department to realize the benefits of the new schedule sooner than under a three-year transition.

The three-year alternative would distribute the 18 additional positions across FY 2027, FY 2028, and FY 2029, with six positions added annually. This approach provides the most gradual funding and recruitment strategy but delays implementation of the fourth platoon and the anticipated improvements in employee recovery, work-life balance, and retention until the final implementation year.

CPSM assesses that all three implementation approaches are operationally achievable if supported by appropriate funding, recruitment, training, and promotional readiness. However, the length of the implementation period has important workforce implications.

CPSM considers the two-year implementation alternative a reasonable balance between fiscal responsibility and the need to address existing workforce challenges.

Regardless of the implementation period selected, CPSM recommends that the fourth platoon not be activated until sufficient qualified personnel are available to maintain established minimum staffing levels across all four platoons without routinely relying on overtime to fill permanent positions.

CPSM Overall Assessment

CPSM's assessment identifies a department operating within a growing community while experiencing meaningful challenges involving employee retention, overtime, forced hires, and workforce satisfaction with existing scheduling practices.

The current three-platoon 24/48 schedule provides an established and financially efficient means of maintaining continuous fire and EMS coverage. However, the schedule's relatively short recovery periods, combined with the demands of 24-hour emergency operations and the possibility of mandatory overtime, create challenges for employee wellness and work-life balance.

The department's history of 154 operational employee departures over ten years, combined with increased use of overtime and backfill hours experienced during 2025, demonstrates the importance of establishing a staffing and scheduling model that can be sustained over time.

Employee survey findings further reinforce these concerns. The strong preference for a four-platoon schedule, combined with the overwhelming belief that a schedule change would improve recruitment and retention, indicates that employees view scheduling as a significant factor in their long-term employment decisions.

CPSM recognizes that implementing a fourth platoon requires a substantial recurring personnel investment. The estimated $1.80 million increase in annual personnel expenditures must be considered alongside the City's broader financial obligations, competing municipal priorities, and anticipated growth in fire and EMS service demands.

However, the financial evaluation should also recognize the organizational costs associated with employee turnover, recruitment, training, vacancies, overtime, and the loss of experienced personnel. While these costs are not fully quantified in the comparative schedule models, they are relevant to the City's assessment of long-term workforce sustainability.

CPSM assesses that a four-platoon system offers the greatest opportunity among the evaluated alternatives to materially reduce scheduled annual work hours, provide more predictable recovery opportunities, improve work-life balance, and strengthen the department's recruitment and retention position. The proposed 24/24/24/120 schedule also offers the advantage of establishing a uniform shift structure across the operational workforce by aligning fire suppression personnel with the schedule already utilized by the department's EMS and float personnel.

At the same time, CPSM recognizes that the four-platoon 24/72 alternative provides a viable scheduling option with the same baseline staffing and financial requirements. Its consistent 72-hour recovery period may provide fatigue-management advantages, particularly for employees who experience significant sleep interruptions during overnight emergency responses.

The decision between these two four-platoon alternatives should therefore consider employee preferences, operational workload, fatigue management, training coordination, and the department's ability to maintain effective staffing and supervision.

CPSM Recommendations

Based on the findings of this assessment, CPSM recommends that the City of Goose Creek and the Goose Creek Fire Department pursue the following actions:

1. Continue pursuing implementation of a four-platoon operational shift schedule. The City should consider transitioning personnel currently assigned to the three-platoon 24/48 schedule to a four-platoon system as a long-term recruitment, retention, employee wellness, and workforce sustainability initiative.
2. Plan for the addition of 18 operational personnel necessary to establish the fourth platoon. The staffing plan should include the appropriate mix of Battalion Chiefs, Company Officers, Engineers, Firefighters, and other qualified personnel necessary to maintain established daily deployment and minimum staffing requirements.
3. Give primary consideration to the 24/24/24/120 four-platoon schedule while retaining the 24/72 schedule as a viable alternative. The 24/24/24/120 model provides consistency with the existing EMS and float schedules, supports the preferences expressed by employees, and offers recurring extended periods away from duty. The 24/72 alternative could be considered for its consistent recovery intervals.
4. Consider a two-year implementation strategy if supported by the City's financial capacity. This approach would distribute recruitment and funding across two fiscal years while allowing the department to implement the new schedule sooner than under a three-year alternative.
5. Evaluate both internal promotion and external recruitment for the fourth Battalion Chief position. The decision should consider organizational leadership development, promotional readiness, qualifications, succession planning, and financial implications.
6. Continue utilizing both entry-level and lateral recruitment strategies. Recruiting experienced, certified firefighters from other agencies may accelerate the staffing process, while entry-level recruitment supports long-term organizational development.
7. Evaluate and strengthen float and relief staffing capacity. GCFD should conduct an annual staffing-factor analysis using historical leave, training, vacancy, and overtime data to determine whether existing float positions remain sufficient as the operational workforce expands.
8. Establish measurable objectives for reducing forced hires and mandatory overtime. The 2025 totals of 2,219 forced-hire hours and 185 forced-hire shifts or occurrences should serve as baseline measures for evaluating the effectiveness of future staffing and scheduling changes.
9. Develop a comprehensive overtime and FLSA management strategy. The City should evaluate the implications of the 14-day and 28-day Section 207(k) work periods, the increased hourly rates associated with a 42-hour workweek, and the continuing costs of leave-related and vacancy-related overtime.
10. Monitor employee retention, wellness, and operational performance following implementation. CPSM recommends formal evaluations approximately 12 and 24 months after a schedule transition, comparing employee turnover, recruitment, vacancies, sick leave, overtime, forced hires, employee satisfaction, and operational readiness against established baseline measures.
11. Integrate future staffing and scheduling decisions into a multi-year workforce and Standards of Cover planning process. As Goose Creek grows and the department expands stations, apparatus, and emergency services, staffing projections should account for operational

positions, supervisory requirements, specialized qualifications, and the relief personnel necessary to maintain continuous coverage.

Conclusion

The Goose Creek Fire Department Shift Schedule Assessment provides the City with an opportunity to make a significant long-term decision regarding the structure, sustainability, and future readiness of its fire and emergency medical services workforce.

CPSM recognizes that the existing three-platoon schedule has provided a functional and comparatively economical staffing framework for the department. However, changing workforce expectations, sustained employee turnover, substantial overtime and backfill requirements, and concerns regarding fatigue and recovery warrant serious consideration of alternative scheduling models.

The proposed transition to a four-platoon system would require a meaningful financial commitment and the addition of 18 operational personnel. In return, the department would establish a scheduling framework that reduces average scheduled weekly work hours from 56 to 42, provides longer recovery opportunities, creates greater predictability in employees' personal lives, and may strengthen recruitment and retention.

The benefits of this transition should not be measured exclusively in terms of scheduled work hours or immediate financial expenditures. Retaining experienced personnel, reducing the frequency of mandatory overtime, supporting employee health and wellness, and maintaining a stable and qualified operational workforce are important components of reliable emergency service delivery.

CPSM assesses that the City's consideration of a four-platoon system represents a proactive approach to addressing these challenges before they become more difficult and costly to manage. Although the transition will not independently eliminate staffing vacancies, overtime, or employee turnover, it offers an opportunity to establish a more sustainable operational framework when combined with adequate authorized staffing, effective relief coverage, competitive compensation, and continued organizational investment in employees.

Ultimately, CPSM recommends that the City of Goose Creek view the transition to a four-platoon shift schedule as a strategic investment in the long-term stability, health, and operational effectiveness of the Goose Creek Fire Department. A carefully planned and adequately funded transition can help position the department to retain experienced personnel, attract qualified applicants, maintain reliable emergency response capabilities, and meet the evolving fire and EMS service needs of a growing community.

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SECTION 1. COMMUNITY AND FIRE DEPARTMENT OVERVIEW

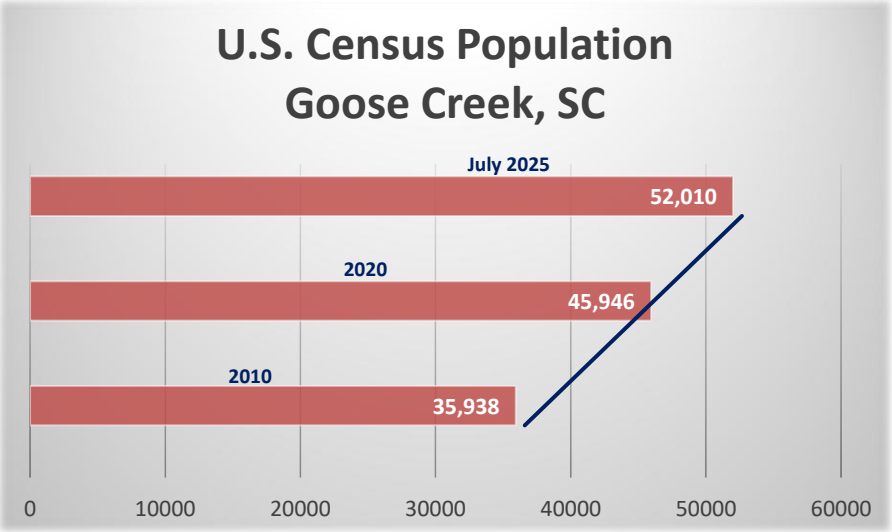
The City of Goose Creek is located in Berkeley County, South Carolina, within the rapidly growing Charleston metropolitan region. Goose Creek has evolved from a relatively small community into one of the larger municipalities in South Carolina and serves as an important residential, commercial, and employment center within the region. The city's location, continued population growth, expanding development, and proximity to major employment and transportation centers have contributed to increasing demands on municipal infrastructure and public services.

Goose Creek encompasses approximately 41.3 square miles of land area. The city's development pattern includes established residential neighborhoods, newer subdivisions, multifamily housing, commercial corridors, institutional properties, and areas experiencing continued residential and commercial investment. These differing development patterns create a varied service environment for municipal departments, including the Goose Creek Fire Department.

Population and Growth Overview

Population growth is one of the most significant characteristics affecting Goose Creek and the future delivery of municipal services. The city's population increased from 35,938 residents in 2010 to 45,946 in 2020, an increase of approximately 28 percent during the decade. The U.S. Census Bureau estimates that Goose Creek's population reached approximately 52,010 residents in 2025, representing an additional 12.9 percent increase since 2020.

Figure 1: Goose Creek U.S. Census Population Data



This growth reflects broader development occurring throughout Berkeley County and the Charleston metropolitan area. The city's comprehensive planning efforts have historically anticipated continued population growth and the need to coordinate land use, transportation, infrastructure, public facilities, and municipal services with an expanding population.

For fire and emergency services, population growth is important because increases in residents, housing units, commercial activity, and traffic generally expand the number and geographic

distribution of potential service demands. Growth may also affect the location and concentration of emergency incidents, the workload placed on existing fire companies, and ultimately the personnel necessary to maintain reliable 24-hour emergency response coverage.

Goose Creek has a relatively young population compared with South Carolina overall. Approximately 21 percent of the city's population is under age 18, while approximately 12 percent is age 65 or older. By comparison, residents age 65 and older represent approximately 19 percent of South Carolina's population.[1]

The community is also increasingly diverse. Current Census estimates identify approximately 59 percent of residents as White alone and 23 percent as Black or African American alone, while approximately 11 percent of residents identify as Hispanic or Latino.[2]

Goose Creek also has a notable veteran population. Census estimates identify just under 5,000 veterans residing in the city. The community's location within the Charleston metropolitan region and its proximity to significant military facilities and activities contribute to the military presence that has long been part of the area's character.[3]

Housing and Economic Characteristics

Goose Creek is predominantly a residential community while maintaining a substantial and growing commercial base. Approximately 68 percent of occupied housing units are owner-occupied, and the city had approximately 17,780 households (2.6 persons/household). The city's median household income was approximately $88,178, while the poverty rate was approximately 6.5 percent. The median value of owner-occupied housing was approximately $306,000.[4]

The City has actively positioned itself as supportive of continued economic development while also emphasizing recreation and quality-of-life amenities. Municipal services include the full scope of public safety, public works, planning, economic development, and extensive recreation opportunities intended to support a growing residential and business community.

Community Growth and Relevance to the Fire Department Schedule

The characteristics of Goose Creek are particularly relevant to this *Fire Department Shift Schedule Analysis*. The Goose Creek Fire Department operates within a community that has experienced sustained population and development growth and requires continuous fire and emergency response capability 24 hours a day, 365 days a year. The city's population has increased by approximately 45 percent since 2010, from 35,938 residents to an estimated 52,010 in 2025.

Population growth alone does not determine fire department staffing requirements; however, it provides important context when evaluating the sustainability of the workforce and the scheduling system used to deploy that workforce. As Goose Creek grows, the Fire Department must be positioned to accommodate changes in emergency demand, development patterns, simultaneous incidents, training requirements, employee leave, vacancies, and other factors that affect daily staffing.

Consequently, the evaluation of alternative shift schedules should not be viewed solely as a comparison of employee work schedules. The schedule establishes the framework through

1. U.S. Census
2. Ibid.
3. U.S. Census – American Community Survey 2024, 5-Year Data.
4. Ibid.

which the City maintains continuous operational coverage and has direct implications for annual work hours, overtime, leave utilization, fatigue, recruitment and retention, employee wellness, and the number of personnel required to reliably staff the Department.

CPSM considers Goose Creek's continued growth an important backdrop for this analysis. A sustainable shift schedule should support both the current operational requirements of the Goose Creek Fire Department and the City's ability to adapt its workforce as community growth and emergency service demands evolve.

Goose Creek Fire Department Overview

The City of Goose Creek Fire Department (GCFD) is a full-time career fire and emergency medical services organization providing fire suppression, advanced emergency medical care transport and first response services, technical rescue, Haz-Mat response, community risk reduction, and other all-hazards emergency services to the City of Goose Creek. The department operates within one of the larger and growing municipalities in South Carolina and has evolved from its volunteer origins into a contemporary career fire and EMS organization. The department has a current authorized workforce of 78 personnel.

Goose Creek transitioned from a volunteer-based department to a full-time career department in 1981. An important milestone followed in 1986, when Goose Creek, working with Berkeley County, implemented fire-based advanced life support ambulance transportation. This history has resulted in a department in which fire suppression and emergency medical services are closely integrated rather than functioning as separate service components. In 2026, the GCFD celebrated 45 years of service to the community.[5]

Organizational Structure

The GCFD is led by a Fire Chief who is assisted by three Assistant Chiefs responsible for Response, Community Risk Reduction, and Preparedness; a Fire Marshal; and three Battalion Chiefs assigned to one of three operational shifts. This organizational model provides executive oversight while establishing specific responsibility for emergency operations, prevention and risk reduction, training and preparedness, and day-to-day shift supervision.

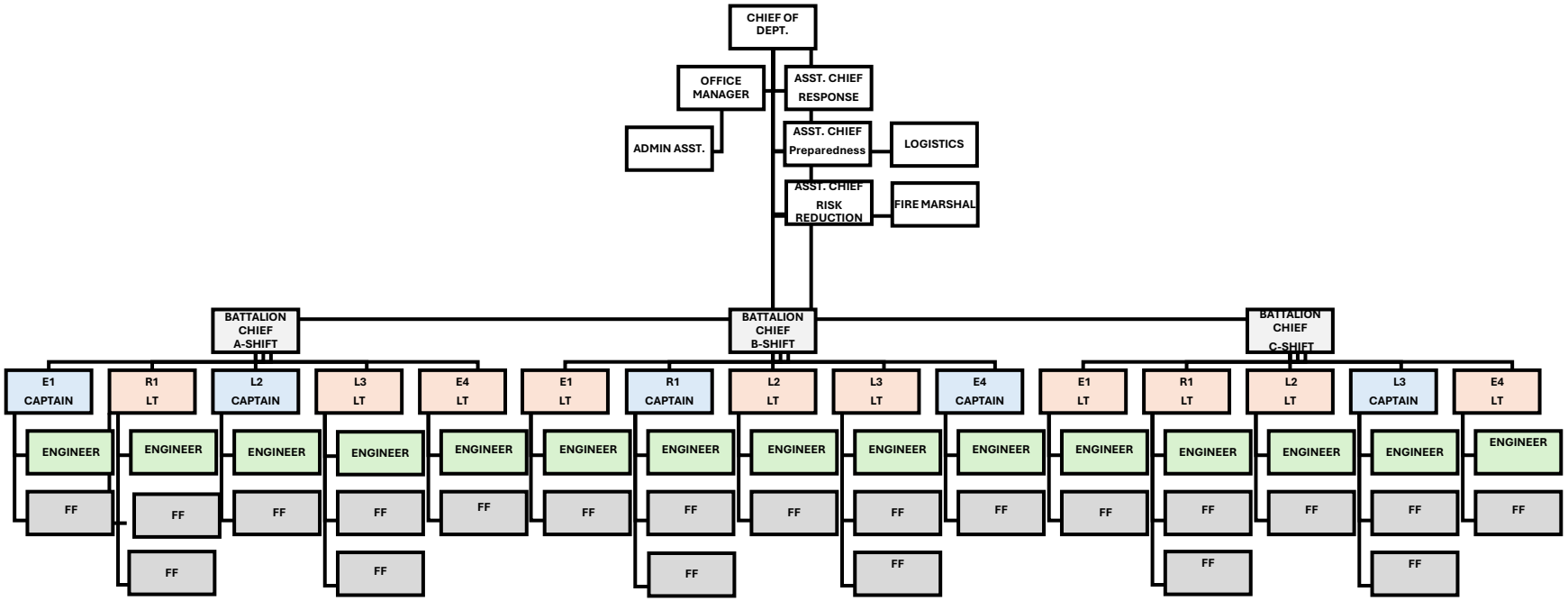
Supporting the command and operations staff are an Office Manager, an Adumbrative Assistant, and a logistics specialist. These three positions keep the day-to-day business end of the operation moving forward in a positive manner.

The GCFD currently operates five fire suppression companies and one Advanced Life Support (ALS) Ambulances (Medic Companies) around the clock. A peak time Medic Unit is staffed if personnel are available for assignment. Each of the five suppression companies has one company commander that holds the rank of Captain and two Lieutenants that fill out the three shifts. A permanent apparatus operator is assigned to each fire suppression company that holds the rank of Engineer. The remaining staffing of fire suppression companies consists of Firefighter rank staff.

The two Medic units are staffed with two ALS certified EMS Specialist positions. There are eight total positions funded for this purpose. These positions are primarily EMS certified but do have firefighting training to operate outside of the hot zone of a fire related incident. EMS Specialist work on a four-platoon schedule system. There is one Captain assigned to Platoon 3 and one Lieutenant assigned to Platoon 2.

5. The Berkely Observer, February 2026.

Figure 2: Goose Creek Fire Department Organizational Chart



Current: 3 Platoons

- 3 BCs
- 5 Captains
- 10 Lieutenants
- 15 Engineers
- 21 FFs

24/48 Schedule
3 Platoons

70 total assigned to Field Operations

- 8 Float FF/PMs
- 8 Non-Fire PMs

24 on/24 off – 24/on 24 off – 24 on/120 off Schedule
4 Platoons **See Next Page for Org Chart**

In addition to the fire suppression company and Medic Unit personnel, there are also eight full-time positions assigned as float personnel.

Float personnel cover scheduled and unscheduled leave to minimize overtime. Float personnel are also assigned to a four-platoon schedule (same as EMS Medic Unit staff).

Float personnel are Firefighter/Paramedic certified, making them available to fill-in on Medic Units as well as fire suppression companies. This maximizes the use of these positions.

Fire & EMS Services

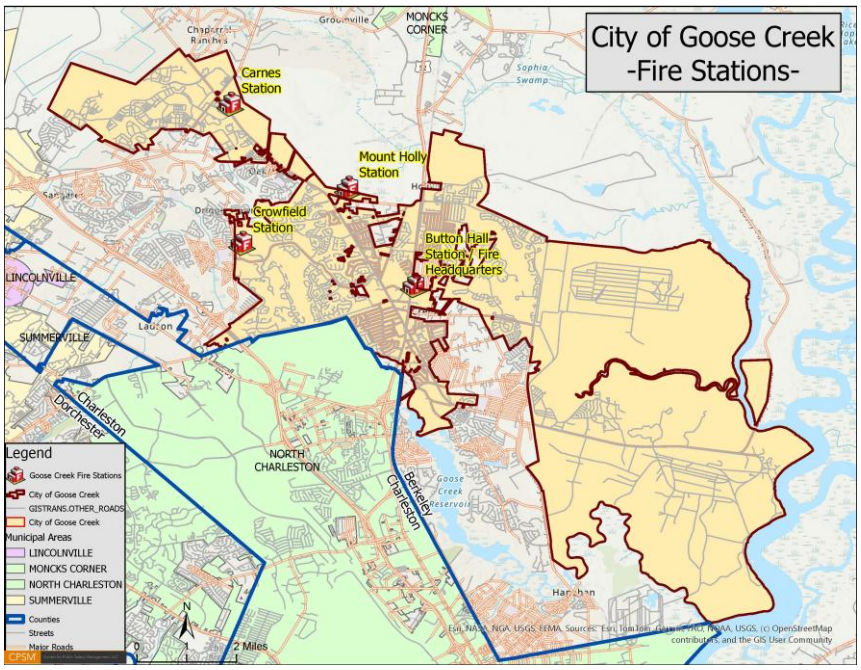
GCFD currently operates from three active fire stations, with a fourth station under construction in the Carnes area. The existing deployment system consists of:

- Button Hall Station/Fire Headquarters at 201 Button Hall Avenue (Station 1).
- Crowfield Station at 950 Crowfield Boulevard (Station 2).
- Mount Holly Station at 535 Old Mount Holly Road (Station 3).
- Carnes Station (Station 4) at 1401 2nd Avenue (Under construction-planned opening February 2027).

The current station apparatus deployment is outlined below. The Station 4 Engine Company is already in service and is currently housed at Station 3.

The construction of the fourth station represents an important expansion of the City's emergency response infrastructure and is intended to address continued development, particularly in the Carnes Crossroads area and other growing portions of the community.

Figure 3: Goose Creek Fire Department Service Area and Fire Stations



Station 1
Button Hall Station

- Battalion Chief
- Engine 1
- Rescue 1

Medic 1

Station 2
Crowfield Station

- Ladder 2

Station 3
Mount Holly Station

- Ladder 3
- Medic 2 (Peak Time Medic)

Station 4
Carnes Station

Fire and EMS Service Delivery

GCFD functions as an all-hazards fire and EMS organization. Its responsibilities extend beyond structural firefighting and include emergency medical response and transportation, vehicle accidents and extrication, hazardous conditions, technical and other rescue incidents, fire alarms, public-service calls, severe-weather incidents, and other emergencies requiring fire department resources. The integration of paramedic specialists into the staffing model further demonstrates the importance of EMS.

Goose Creek does not operate in isolation. The department provides and receives assistance through regional relationships involving surrounding Berkeley and Charleston County fire and emergency service organizations. Automatic and mutual-aid arrangements with surrounding departments are designed to operate through a system of response according to predetermined response guidelines and station proximity. This regional capability is particularly important for structure fires and other incidents requiring multiple companies and an Effective Response Force beyond the resources available from a single station or jurisdiction.

Overall, the GCFD provides the following services:

- Fire Suppression
- Advanced Life Support EMS Transport
- Technical Rescue Operations
- Hazardous Materials Response
- Fire Prevention and Inspections
- Public Education
- Emergency Management Support
- Community Risk Reduction

Service Demand

2023: 5,583 Incidents – 24% had simultaneous incidents.

2024: 5,963 Incidents – 26% had simultaneous incidents.

2025: 6,038 Incidents – 37% had simultaneous incidents.

EMS Transports

2023: 2,474 - 44% of all Fire & EMS Call Workload.

2024: 2,306 - 39% of all Fire & EMS Call Workload.

2025: 2,268 – 38% of all Fire & EMS Call Workload.

Current Department Staffing & Deployment Model: Fire & EMS

Staffing and deployment are fundamental components of an effective fire and emergency medical services delivery system. As communities grow and develop, fire departments must continually evaluate whether the number, type, location, and deployment of personnel remain aligned with changing community risk and service demand. This is particularly important for the City of Goose Creek as continued residential and commercial development, population growth, transportation activity, and expanding municipal services place additional demands on the Goose Creek Fire Department (GCFD).

Growth affects fire and EMS systems in several ways. New residential development increases the population requiring emergency services, while commercial, institutional, industrial, and mixed-use development can introduce additional or more complex fire and life-safety risks. Development may also expand the geographic area that must be protected, increase roadway congestion and travel distances, and create new demands for fire inspections, public education, emergency planning, training, and other non-emergency services. Consequently, community growth should be evaluated not simply in terms of population, but in terms of its cumulative effect on emergency response workload, community risk, and the resources required to maintain an appropriate level of service.

Fire and EMS incident demand is particularly important when evaluating staffing and shift schedules. As call volume increases, the workload placed on on-duty personnel generally increases as well. This effect can be amplified in departments where personnel are cross-trained and fire companies perform multiple functions, including fire suppression, EMS response, rescue, hazardous materials response, public assistance, training, inspections, pre-incident planning, station duties, apparatus and equipment maintenance, and community risk reduction activities.

An increase in emergency incidents therefore does not occur independently of other responsibilities; rather, it consumes a greater portion of the finite time available during each shift.

EMS demand can have an especially significant effect on workload. EMS incidents typically represent a substantial portion of fire department activity and may require personnel to remain committed for extended periods. When units are assigned to consecutive or overlapping incidents, personnel have less time available for training, physical fitness, apparatus and equipment checks, inspections, public education, meals, administrative responsibilities, station activities, and recovery between calls. As utilization increases, the department may also experience more frequent periods when its first-due resources are already committed, requiring another GCFD unit or an outside agency to respond from a greater distance.

For shift personnel, increasing demand can affect more than unit availability. Sustained increases in workload can contribute to fatigue, interrupted sleep during overnight hours, reduced opportunities for physical and mental recovery, and greater reliance on overtime or callback staffing when vacancies occur. These factors become particularly important when evaluating 24-hour and other extended-duration shift schedules. A schedule that functions effectively at one level of incident demand may produce different outcomes as call volume, unit utilization, nighttime activity, and overlapping incidents increase.

Accordingly, a shift schedule should not be evaluated solely by the number of hours employees work or the configuration of work and off-duty periods. The analysis should consider the operational environment in which those hours are worked. Call volume, calls by hour of day, nighttime activity, overlapping incidents, unit utilization, staffing levels, leave usage, overtime, training requirements, and opportunities for uninterrupted rest all influence how a particular schedule affects personnel and service delivery.

Deployment is equally important. As Goose Creek continues to grow, GCFD must periodically assess whether existing fire stations, companies, apparatus, and staffing are appropriately distributed relative to current and anticipated demand. Adding personnel or resources without considering where and when demand occurs may not produce the desired improvement in system performance. Conversely, strategically adding staffing, companies, stations, or peak-demand resources can improve unit availability, reduce the effects of simultaneous incidents, strengthen the department's ability to assemble an effective response force, and provide greater resiliency when primary resources are committed.

The relationship between growth and staffing is therefore not necessarily linear. A percentage increase in population does not automatically require an equivalent percentage increase in staffing. Rather, staffing decisions should be based on measurable changes in service demand, risk, workload, response performance, concurrency, geographic coverage, and the department's ability to maintain sufficient resources for subsequent emergencies. Monitoring these indicators provides GCFD and the City with a more reliable basis for determining when additional personnel, apparatus, stations, or alternative deployment strategies may be warranted.

This relationship is particularly relevant to the GCFD Shift Schedule Analysis. As the department expands services and the City continues to develop, the sustainability of any shift schedule will depend in part on the workload experienced by personnel while assigned to duty. A schedule that provides an appropriate balance between operational readiness, employee recovery, training, leave, and organizational needs today must also be considered within the context of anticipated future demand.

CPSM assesses that staffing, deployment, and shift scheduling should therefore be viewed as interconnected components of the City's long-term fire and EMS service delivery strategy. The objective is not simply to identify a preferred work schedule, but to ensure that the schedule can support adequate daily staffing, operational readiness, employee health and wellness, training requirements, leave management, and reliable emergency response as Goose Creek grows.

As Goose Creek develops and GCFD's responsibilities expand, the City should periodically reassess whether staffing levels, deployment practices, station locations, apparatus resources, and the selected shift schedule remain appropriately aligned with the community's changing risk and service demands. This approach provides a foundation for sustaining effective emergency response while also recognizing that the long-term health, readiness, and resilience of GCFD personnel are essential components of the department's ability to serve a growing community.

Deployment Model

As outlined earlier, the GCFD responds from three stations with a fourth station under construction and due to open in February 2027. Daily staffing consists of one Battalion Chief, five company officers (Captain and Lieutenants, five engineers, two Medic Unit personnel (Paramedics), and two float positions.

Deployable apparatus/services includes:

- 1 Battalion Chief.
- 2 Engines (Engine 1, Engine 4).
- 2 Ladders that have Engine capabilities such as a water tank, preconnected attack hose lines, water supply hose (Ladder 2, Ladder 3).
- 1 Heavy Rescue Truck.
- 1 24/7 Medic Unit (ALS transport ambulance).
- 1 Peak Time Medic Unit (staffed when personnel are available).

Daily Shift Functions and Operational Roles

The daily staffing of the Goose Creek Fire Department (GCFD) is organized around a company-based deployment model in which personnel assigned to each shift perform distinct but interconnected operational functions. Each position contributes to the department's ability to maintain command and control, staff emergency response apparatus, provide fire suppression and emergency medical services, conduct training, complete station and equipment responsibilities, and maintain sufficient operational readiness throughout the 24-hour shift.

Understanding these functions is important to the shift schedule analysis because staffing requirements extend beyond simply maintaining a specified number of employees on duty. The department must have the appropriate rank, qualifications, certifications, and operational capabilities available each day. A vacancy involving a Battalion Chief, Company Officer, Engineer, Firefighter/Paramedic, or other specialized position cannot necessarily be filled by any available employee. Consequently, the distribution of personnel across shifts, leave usage, vacancies, overtime, and the availability of qualified relief personnel directly affect GCFD's ability to maintain its daily deployment model.

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Battalion Chief

The Battalion Chief (BC) serves as the senior operational command officer assigned to the shift and provides overall supervision and coordination of GCFD resources during the operational period. The Battalion Chief maintains situational awareness of department staffing, apparatus status, unit availability, significant incidents, training activities, and other operational conditions that may affect service delivery.

During emergency incidents, the Battalion Chief typically assumes or supports Incident Command for incidents requiring multiple companies or a higher level of command and coordination. This includes structure fires, technical rescue incidents, hazardous materials events, mass-casualty incidents, and other complex emergencies. The Battalion Chief is responsible for establishing incident priorities, developing, and adjusting the incident action plan, assigning companies, managing accountability and firefighter safety, requesting additional resources, and coordinating with other agencies when necessary.

During routine operations, the Battalion Chief provides shift-level leadership, addresses staffing and deployment issues, coordinates operational activities among companies and stations, and ensures that department policies, procedures, training requirements, and performance expectations are conducted consistently. The position therefore represents an important link between executive leadership and personnel assigned to daily emergency operations.

Company Officer—Captain and Lieutenant

GCFD assigns a Captain and two Lieutenants to each company, with one of these three Company Officers assigned to work each 24-hour shift. The Captain serves as the overall commander of the company, providing broader leadership, accountability, coordination, and administrative oversight for the company across all shifts. The Lieutenants provide company-level supervision and command while assigned to their respective operational shifts.

The Company Officer working the 24-hour shift is responsible for the immediate supervision, readiness, safety, and performance of the personnel assigned to the company that day. This includes conducting roll call, verifying staffing and assignments, ensuring apparatus and equipment readiness, coordinating daily training and station activities, completing, or overseeing required documentation, and ensuring personnel remain prepared for emergency response.

During emergency incidents, the Company Officer directs the tactical activities of the assigned company. Depending on the incident and apparatus assignment, this may include directing fire attack, search and rescue, ventilation, forcible entry, water supply, aerial operations, technical rescue, or other tactical functions that also include emergency medical incidents. The Company Officer must continually evaluate conditions, maintain crew accountability, communicate with Incident Command, and make decisions affecting both operational effectiveness and firefighter safety.

Because each operational company requires qualified supervision, Company Officer vacancies have a direct effect on daily staffing. Maintaining sufficient qualified Captains and Lieutenants and/or personnel qualified to "*ride-up*" across the shift schedule is therefore an important component of maintaining company availability and operational continuity.

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Engineer/Driver Operator

The Engineer/Driver Operator is responsible for the safe operation, positioning, and operational readiness of assigned fire apparatus. Within GCFD, Engineers may be assigned to an engine, aerial ladder truck, or heavy rescue truck, with the specific responsibilities varying according to apparatus type.

Before and throughout the shift, the Engineer verifies that the assigned apparatus is operationally ready, including appropriate checks of the vehicle, pumps, aerial systems, rescue equipment, fluids, fuel, emergency warning systems, and other equipment. Engineers must possess detailed knowledge of the apparatus they operate as well as the City's street network, response routes, access challenges, hydrant locations, and other factors affecting emergency response.

At fire incidents, an Engineer assigned to an engine is responsible for positioning the apparatus, establishing, and maintaining appropriate water supply and pump operations, and supporting hose-line deployment. An Engineer operating an aerial apparatus must safely position the vehicle to maximize the effectiveness of aerial ladder operations while considering building configuration, overhead obstructions, apparatus access, and fireground conditions. Engineers assigned to heavy rescue apparatus must position and operate the vehicle in a manner that supports rescue, fire suppression, and emergency medical operations and provides access to specialized equipment.

The Engineer position is therefore both a driving and technical apparatus-operating function. Maintaining an adequate number of personnel qualified to operate each type of GCFD apparatus is an important daily staffing consideration.

Firefighters

Firefighters constitute the primary operational workforce responsible for conducting the tactical tasks required during fire, rescue, EMS, hazardous materials, and other emergency incidents. Their responsibilities can include emergency medical, fire suppression, hose-line advancement, search and rescue, forcible entry, ventilation, ladder operations, water supply, salvage and overhaul, firefighter rescue, and other assignments directed by the Company Officer or Incident Commander.

Firefighters also have substantial responsibilities outside of emergency response. A 24-hour shift includes apparatus and equipment inspections, station maintenance, training, physical fitness, pre-incident planning, hydrant and facility familiarization, public education, community risk reduction activities, and other departmental assignments.

The workload experienced by firefighters is therefore influenced not only by the number of emergency responses but also by the amount of time available between incidents to complete these essential activities. As emergency demand increases, the amount of discretionary time available for training, station responsibilities, meals, physical conditioning, and recovery can decline.

Paramedics Assigned to Medic Units

Paramedics assigned to GCFD Medic units provide advanced life support (ALS) emergency medical care and are responsible for the assessment, treatment, stabilization, and transport of patients experiencing medical emergencies or traumatic injuries. Their responsibilities include

patient assessment, cardiac monitoring, medication administration, airway management, intravenous or intraosseous access, resuscitation, trauma care, and other interventions authorized under the applicable EMS protocols and as directed by the GCFD Medical Director.

Medic Unit personnel also complete patient-care documentation, restock and inspect medical supplies and equipment, clean and prepare the unit following incidents, and ensure the Medic Unit remains ready for subsequent calls.

The workload associated with Medic Unit assignments warrants particular consideration during a shift schedule analysis. Unlike many fire incidents where companies may return to service relatively quickly, EMS incidents involving patient transport can commit a Medic Unit and its personnel for extended periods through response, on-scene treatment, transport, hospital transfer of care, documentation, restocking, and return travel. Consecutive calls can further reduce opportunities for meals, training, station activities, and rest.

As Goose Creek grows and EMS demand increases, Medic Unit workload can therefore become an important indicator of the sustainability of a 24-hour shift assignment. Particular attention should be given to total call volume, calls by hour of day, nighttime responses, unit utilization, simultaneous incidents, transport time, and the frequency with which Medic personnel experience consecutive assignments.

Float Firefighter/Paramedics

GCFD utilizes float positions staffed by personnel who are qualified as both Firefighters and Paramedics (FF/PM). Float personnel provide staffing flexibility by covering vacancies created by scheduled leave, unscheduled absences, training, vacancies, or other circumstances that would otherwise reduce operational staffing.

Unlike personnel permanently assigned to a particular company or apparatus, float FF/PMs must be capable of working where operational staffing needs exist during a particular shift. Their dual Firefighter/Paramedic qualifications provide GCFD with considerable flexibility because they can potentially fill vacancies in both fire suppression and EMS assignments, subject to the specific qualifications required for the position being covered.

Float positions serve as an important internal staffing relief mechanism. Without sufficient float capacity, routine leave and vacancies are more likely to require overtime, callbacks, reassignment of personnel, reduction of available leave, or other staffing adjustments. Float personnel can therefore help stabilize daily staffing, control overtime exposure, and maintain consistent apparatus availability.

The effectiveness of the float system, however, depends on the relationship between the number of float personnel and the number of vacancies that routinely must be covered. As the department grows, adds companies or Medic Units, and increases its overall authorized staffing, the number of employees eligible for vacation, sick leave, training leave, injury leave, FMLA, military leave, and other absences also increases. The appropriate number of float positions should therefore be periodically evaluated as part of the department's overall staffing factor rather than viewed as a fixed number independent of organizational growth.

Relationship to the Shift Schedule Analysis

Collectively, these positions form the operational staffing framework that GCFD must reproduce every day of the year. The shift schedule must provide more than an adequate number of personnel; it must consistently produce the correct mix of Command Officers, Company

Officers, Engineers, Firefighters, Paramedics, and relief personnel necessary to place the department's planned complement of apparatus and Medic units in service.

This distinction is important when evaluating alternative shift schedules. A department may have sufficient authorized personnel overall while still experiencing daily staffing challenges if personnel are not distributed appropriately among shifts, if specialized qualifications are concentrated on particular shifts, or if leave and vacancies routinely exceed available relief capacity.

CPSM assesses that GCFD's continued growth should include periodic evaluation of both minimum daily staffing and staffing by position and qualification. As Goose Creek grows and GCFD adds personnel, apparatus, Medic Units, stations, or other services, the department should evaluate whether corresponding increases are necessary in supervisory personnel, qualified apparatus operators, ALS personnel, and float capacity to minimize overtime.

This is particularly important for the float FF/PM positions. As the operational workforce expands, maintaining the same number of float positions effectively reduces the proportion of the workforce available to absorb routine vacancies. GCFD should therefore monitor leave utilization, vacancies by rank and certification, overtime usage, holdovers, callbacks, and the frequency with which float personnel are fully committed. These indicators can help determine whether float capacity remains sufficient or whether additional relief positions should accompany future expansion.

Ultimately, GCFD's daily staffing model functions as an integrated system. Battalion Chiefs provide shift-level command; Company Officers provide company-level leadership and tactical supervision; Engineers provide specialized apparatus operation; Firefighters perform essential tactical and support functions; Medic personnel provide ALS emergency medical care and transport; and float FF/PMs provide the relief capacity necessary to sustain these functions when regularly assigned personnel are unavailable. The shift schedule must support each of these functions while providing sufficient resilience to accommodate leave, vacancies, training, increasing emergency demand, and the continued expansion of the Goose Creek Fire Department.

Minimum Staffing

An important distinction in evaluating fire department staffing is the difference between maximum unit staffing and minimum staffing. Although the terms are related, they measure different aspects of the department's staffing and deployment system. Understanding this distinction is particularly important when evaluating shift schedules, leave capacity, overtime requirements, relief staffing, and the number of personnel necessary to maintain the GCFD planned level of service.

Maximum unit staffing represents the number of personnel required to fully staff all fire and EMS units that the department intends to place in service under its normal deployment configuration. It reflects the department's desired or planned operational deployment when all scheduled positions are filled. Maximum unit staffing is therefore based primarily on the number and type of resources the department expects to operate, and the staffing assigned to each resource.

For example, maximum unit staffing may include personnel assigned to engines, aerial ladder trucks, heavy rescue units, Medic Units, Battalion Chief positions, and other operational assignments. If an engine is intended to operate with a Company Officer, Engineer, and designated number of firefighters, each of those positions contributes to maximum unit staffing. The same concept applies to Medic units and specialized apparatus.

Maximum unit staffing should not be confused with the total number of employees assigned to a shift. A shift may include float personnel or other positions that are not permanently assigned to a specific response unit. These positions provide the staffing depth necessary to maintain the intended unit deployment when regularly assigned personnel are absent.

Minimum staffing, by comparison, represents the lowest number and appropriate mix of qualified personnel that GCFD determines must be on duty to maintain its established operational deployment and an acceptable level of emergency response capability to manage the city's risk. Minimum staffing establishes the staffing threshold below which the department generally cannot fall without taking some form of corrective staffing action.

When staffing falls below the established minimum because of vacation, sick leave, injury, training, vacancies, FMLA, military leave, or other absences, the department must typically fill the vacancy through a float employee, overtime assignment, callback, holdover, reassignment, or another approved staffing mechanism. Minimum staffing therefore has a direct relationship with overtime expenditures, leave availability, and the number of relief or float personnel required by the department.

The difference between the two concepts becomes especially important when a department establishes a minimum staffing level that is lower than its maximum unit staffing level. Under such a model, the department recognizes that certain positions may remain temporarily unfilled while still maintaining its established minimum operational capability. The difference between maximum and minimum staffing essentially creates a staffing margin that can absorb a limited number of absences before overtime or another staffing action becomes necessary.

For example, if a department's normal deployment requires 30 personnel to achieve maximum unit staffing but establishes 27 personnel as its minimum staffing level, the department has a three-position staffing margin. An absence does not necessarily generate overtime until available staffing approaches the 27-person minimum. The operational consequences depend on what those three positions represent. They may result in reduced staffing on individual apparatus, reassignment of personnel, reduced staffing of a discretionary resource, or another predetermined deployment adjustment.

This illustrates why minimum staffing should not be viewed solely as a numerical threshold. The positions and qualifications represented within the minimum are as important as the total number of personnel. A department could meet its numerical minimum but still experience an operational staffing deficiency if it lacks the required Battalion Chief, Company Officer, Engineer/Driver Operator, or Paramedic. Minimum staffing policies should therefore address both total personnel and the minimum number of personnel possessing the ranks, certifications, and qualifications necessary to maintain the intended deployment.

Relationship to Authorized Shift Staffing

A third concept important to the analysis is authorized or assigned shift staffing. This represents the total personnel assigned to a shift and normally exceeds the minimum staffing requirement because employees will predictably be unavailable on any given day.

Fire departments operate continuously, 24 hours per day and 365 days per year, while individual employees receive vacation, sick leave, training, injury leave, and other forms of authorized absence. Consequently, staffing a department with only the number of employees necessary to meet its daily minimum would virtually guarantee recurring overtime.

The difference between assigned shift strength and the personnel required for maximum unit staffing provides the department with its relief capacity. In GCFD, FF/PM float positions are an

important component of this capacity. Float personnel can fill vacancies created by leave or other absences before the department must rely on overtime or other staffing measures.

The staffing relationship can therefore be expressed conceptually as:

- **Authorized Shift Staffing → Maximum Unit Staffing → Minimum Staffing**

Authorized shift staffing provides the personnel pool available to staff the shift. Maximum unit staffing represents the personnel necessary to fully staff the department's planned deployment. Minimum staffing establishes the lowest acceptable operational staffing threshold.

Ideally, sufficient separation exists between these levels to accommodate predictable employee absences without routinely creating overtime or compromising unit staffing.

Importance to the GCFD Shift Schedule Analysis

This distinction is particularly important when evaluating alternative shift schedules for GCFD. Changing a shift schedule does not change the number of positions required to staff an engine, ladder truck, heavy rescue, Medic Unit, or command function. It can, however, substantially affect the number of employees required to sustain those positions throughout the year.

Different schedules affect annual hours worked, the number of shifts worked, leave utilization, Kelly days or other scheduled relief mechanisms, overtime exposure, and the number of personnel required on each platoon.

This distinction becomes increasingly important as Goose Creek grows and GCFD expands. Adding another engine, Medic Unit, station, or specialized resource increases maximum unit staffing. Depending upon how the resource is deployed, it may also increase minimum staffing. However, the actual number of additional employees required will be greater than the number of seats added to the daily deployment because sufficient personnel must be available to cover those positions across all shifts while accounting for scheduled and unscheduled absences, if that is the model adopted to maintain minimum staffing.

CPSM assesses that GCFD should continuously evaluate maximum unit staffing, minimum staffing, authorized shift strength, and float capacity as interconnected components of its staffing model. The department should periodically determine whether the difference between assigned staffing and required daily staffing remains sufficient to absorb normal leave and vacancy patterns without excessive dependence on overtime.

As GCFD grows, this analysis will become increasingly important. An expanding workforce creates additional leave exposure at the same time that new companies and Medic units increase the number of positions that must be filled each day. Maintaining an appropriate number of float FF/PM positions and other relief capacity should therefore be considered whenever operational staffing is expanded. This approach will help GCFD maintain its desired unit deployment, protect minimum staffing, provide reasonable access to employee leave, and manage overtime while continuing to meet the increasing fire and EMS service demands of a growing Goose Creek.

GCFD Maximum and Minimum Staffing

The GCFD utilizes a staffing model designed to maintain its daily fire and EMS deployment while providing a limited amount of staffing flexibility to accommodate leave, vacancies, training, and other personnel absences. Understanding this model requires distinguishing among authorized field operational staffing, authorized shift staffing, maximum daily staffing, minimum

daily staffing, and float staffing. Each serves a different function in determining how many personnel are available to staff GCFD operations during each 24-hour period.

GCFD has a total authorized field operational staffing complement of 70 FTEs. Fifty-four operational personnel are assigned to a traditional three-platoon schedule (24 hours on-48 hours off), with 16 FTEs assigned to a four-platoon schedule (24 hours on-24 hours off-24 hours on-120 hours off). These personnel provide the core staffing for EMS transport, fire suppression, command, apparatus operation, other field functions during their assigned 24-hour shifts, and float to cover vacancies. Collectively, these positions account for GCFD's authorized field operational staffing of 70 FTEs.

The staffing structure can be summarized as follows:

Table 1: Authorized Operational FTEs

Staffing Component	Authorized FTEs	Schedule
Three primary operational platoons	54	3-platoon; 18 FTEs per 24-hour period
Primary Medic unit	8	4-platoon; 2 FTEs per 24-hour period
FF/PM float positions	8	4-platoon; 2 FTEs per 24-hour period
Total Field Operational Staffing	70	

Under this configuration, GCFD's maximum staffing is 22 personnel during a 24-hour operational period. Maximum staffing represents the full complement of personnel available when the regularly scheduled operational positions, primary Medic unit, and two float positions are staffed and no personnel are unavailable because of leave, vacancy, training, illness, injury, or another absence.

The department has established minimum staffing of 21 personnel per 24-hour period. Minimum staffing represents the lowest daily staffing level at which GCFD maintains its established operational deployment without requiring an additional employee to be brought to work to satisfy the minimum staffing requirement.

The one-person difference between maximum staffing of 22 and minimum staffing of 21 is operationally significant. Because two FF/PM float positions are already incorporated into the normal daily staffing model, operating at the 21-person minimum allows the department to absorb one additional absence while still maintaining minimum staffing. In practical terms, the employee position between maximum and minimum staffing can function as an additional relief position, increasing the effective float capacity from two to as many as three personnel during a 24-hour period, when needed.

This provides GCFD with an important layer of staffing flexibility. Rather than immediately generating an overtime requirement for the first absence from maximum staffing, the department can use its available staffing above the minimum threshold to accommodate an additional vacancy. When combined with the two regularly scheduled FF/PM float positions, the model provides the department with the potential to absorb up to three vacancies during a 24-hour operational period before staffing falls below the established minimum, depending on the positions and qualifications associated with the absences.

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Table 2: GCFD Maximum-Minimum Staffing Model

Station	Unit	Maximum Staffing	Minimum Staffing
1	**3 Platoon Schedule**		
	Battalion Chief	1	1
	Engine 1	3	3
	Rescue 1	4	4
	4 Platoon Schedule		
	Medic 1	2	2
	Float Positions	2	2
2	Ladder 2	4	3 (-1)
3	Ladder 3	3	3
4	Engine 4	3	3
Totals		22	21 (-1)

Table Analysis

- Max Staffing: 22
- Min Staffing: 21
- Float Staffing: 2
- Float Staffing at Min Staffing: 3
- Rescue 4 Maintains Min Staffing of 4.
- 3 Platoon Companies:
  - ✓ Batt. Chief
  - ✓ Engine 1
  - ✓ Rescue 1
  - ✓ Ladder 2
  - ✓ Ladder3
  - ✓ Engine 4
- 4 Platoon Assignments
  - ✓ Medic 1
  - ✓ Float Positions

Importantly, the ability to absorb vacancies is not based exclusively on the total number of personnel available. Rank, certification, and qualification must also be considered. GCFD must maintain the appropriate complement of Battalion Chiefs, Company Officers, Engineers/Driver Operators (or those approved to ride up in these three positions), Firefighters, and Paramedics necessary to staff its deployed resources. An available Firefighter/Paramedic may provide considerable flexibility, but that employee cannot necessarily replace a Battalion Chief, Company Officer, or Engineer unless appropriately qualified for that assignment.

The use of FF/PMs in the float positions provides GCFD with additional flexibility because these personnel possess both fire suppression and advanced life support qualifications. Depending upon departmental qualifications and assignment requirements, they can be deployed to cover vacancies on fire apparatus or Medic units. This versatility is particularly valuable in a department providing both fire suppression and EMS transport services.

Relationship to Leave and Overtime

The difference between maximum and minimum staffing is also important when evaluating employee leave and overtime. Fire department staffing systems must account for predictable absences associated with vacation, sick leave, injury leave, training, FMLA, military leave, and other authorized time away from duty. Because emergency response positions must be staffed continuously, an absence does not necessarily eliminate the operational requirement associated with that position.

GCFD's float positions serve as an internal relief mechanism intended to absorb a portion of these absences. The additional position between maximum staffing of 22 and minimum staffing of 21 provides another layer of flexibility before overtime or another staffing action becomes necessary.

Conceptually, the daily staffing model operates as follows:

- 22 Personnel — Maximum Staffing
  Full scheduled staffing, including two designated FF/PM float positions.
- 21 Personnel — Minimum Staffing
  One position below maximum staffing while maintaining the department's established minimum operational staffing level.
- Potential Relief Capacity — Up to Three Positions
  The two designated FF/PM float positions, combined with the one-position difference between maximum and minimum staffing, provide the potential to absorb as many as three daily absences before staffing falls below the established minimum, subject to required ranks and qualifications.

Once staffing would otherwise fall below 21, GCFD must utilize overtime, callback, reassignment, or another approved staffing mechanism to restore staffing to the established minimum.

Importance to the Shift Schedule Analysis

This staffing configuration is particularly relevant to CPSM's analysis of alternative shift schedules. GCFD's operational requirement is not simply to employ 70 field personnel; it is to consistently convert those 70 authorized FTEs into the appropriate number and mix of personnel available during every 24-hour operational period.

The department currently accomplishes this through a combination of three platoon and four-platoon schedules. The 54 personnel assigned to the primary operational platoons provide 18 personnel per shift under the three-platoon model, while the primary Medic Unit and float personnel are staffed through four-platoon schedules. This creates a hybrid staffing structure that must be considered when evaluating alternative schedules because a change in work schedule can alter annual hours, the number of employees required per position, relief requirements, leave exposure, and overtime.

The distinction between maximum and minimum staffing is also important when considering future growth. As Goose Creek grows and GCFD expands its deployment, the addition of another company, Medic Unit, station, or other continuously staffed resource will increase the number of seats that must be filled every day. Adding positions to daily deployment without a corresponding evaluation of float and relief capacity can gradually reduce the staffing flexibility currently built into the system.

CPSM assesses that GCFD's current maximum staffing level of 22 personnel and minimum staffing level of 21 personnel provide a measurable but relatively limited staffing margin. The combination of two designated FF/PM float positions and the one-person differential between maximum and minimum staffing provides the department with the potential to absorb up to three absences before falling below minimum staffing, provided the available personnel possess the necessary rank and qualifications.

Recruitment and Retention: Workforce Sustainability

Recruitment and retention have become increasingly important considerations for fire and EMS

organizations nationally, particularly as departments compete for qualified firefighters and paramedics while simultaneously managing increasing service demand, employee leave, overtime, and workforce expectations regarding work-life balance. For the GCFD, these issues are directly relevant to the current shift schedule analysis. The sustainability of the department's staffing model depends not only on its ability to recruit qualified employees, but also on its ability to retain experienced personnel after the significant investment required to recruit, train, certify, and develop them.

Employee turnover creates both direct and indirect organizational consequences. When an experienced employee leaves, the department loses institutional knowledge, operational experience, training investment, and, depending upon the employee's qualifications, specialized capabilities such as paramedic certification, apparatus operation, or supervisory experience. Vacancies also place additional pressure on remaining personnel because the department must continue to maintain its established minimum daily staffing regardless of the number of authorized positions that are vacant.

For this reason, recruitment and retention should not be viewed independently. A department can successfully recruit new employees and still experience persistent staffing challenges if employees leave at a rate that prevents the organization from achieving and maintaining its authorized staffing complement. Improving retention can therefore be as important as increasing recruitment activity.

GCFD Operational Employee Turnover

GCFD has experienced recurring operational employee turnover over the past decade. From 2016 through 2025, the department experienced the following annual turnover.

Table 3: GCFD Turnover

Year	Operational Employees Leaving
2016	8
2017	15
2018	19
2019	20
2020	15
2021	14
2022	23
2023	12
2024	11
2025	17
2016–2025 Total	**154**
Annual Average	**15.4**

Annualized average turnover of 15.4 employees/year represents a turnover rate of 22% per year (utilizing current authorized operational workforce of 70 FTEs).

Over the ten-year period, 154 operational employees left GCFD, an average of approximately 15 employees per year. Turnover peaked in 2022, when 23 operational employees departed. Although turnover subsequently declined to 12 employees in 2023 and 11 in 2024, it increased again to 17 employees in 2025. The 2025 total was approximately 55 percent higher than 2024 and exceeded the ten-year annual average.

The data demonstrate that turnover is not an isolated or short-term occurrence. Rather, GCFD has experienced a sustained pattern of employee departures that warrants consideration when evaluating the long-term sustainability of its staffing and scheduling practices.

Of particular significance to the current analysis, GCFD reports that a larger percentage of departing employees are returning to northern states or communities from which they originally relocated. A contributing factor reported to CPSM is that employees do not believe the current schedule provides sufficient periods away from work to regularly travel longer distances to visit family. This issue highlights an important aspect of employee retention: compensation and benefits are not the only factors influencing an employee's decision to remain with an organization. Schedule quality, predictability of time off, opportunities for recovery, family considerations, and the frequency with which scheduled days off are interrupted by overtime can materially affect retention.

The 24/48 Schedule and Employee Recovery

Under a traditional three-platoon 24-hours-on/48-hours-off schedule, employees are generally scheduled to work a 24-hour shift followed by 48 hours away from duty. While the two calendar days following a shift appear to provide substantial time away from work, the actual recovery period can be considerably different depending upon emergency workload, nighttime call activity, commuting time, overtime, training obligations, and forced-hire requirements.

A 24-hour shift is fundamentally different from a conventional eight- or ten-hour workday. Firefighters and paramedics remain available for emergency response throughout the entire operational period, including overnight hours. When nighttime incident activity interrupts sleep, a portion of the first day following the shift may necessarily become a recovery period rather than a true day available for family, travel, recreation, or other personal activities.

The effect becomes more pronounced when overtime occurs during the employee's scheduled 48-hour period away from work. Working an additional shift can substantially reduce or eliminate the recovery period that the 24/48 schedule is intended to provide.

This is particularly important when overtime is mandatory or forced. Voluntary overtime provides an employee with some ability to determine whether the additional work is compatible with personal and family obligations. A forced hire or mandate removes much of that discretion. Employees who are expected to be away from work may instead be required to return or remain on duty to maintain minimum staffing.

Repeated forced hires can therefore affect more than the number of hours an employee works. They reduce schedule predictability, interfere with family plans, limit opportunities for travel, interrupt physical and mental recovery, and can create uncertainty about whether scheduled time away from work will actually remain available.

For employees with family members living significant distances from Goose Creek, this issue may be especially important. Two scheduled days away from duty provide a relatively limited

window for long-distance travel, particularly when the first portion of that period may follow a busy 24-hour shift. If overtime or a forced hire further reduces that period, opportunities to travel home to visit family can become increasingly difficult.

2025 Overtime and Backfill Workload

GCFD's 2025 staffing data illustrates the relationship among employee absences, backfill requirements, overtime, and forced hires. Light duty, sick leave, annual leave, and FMLA represented the four largest sources of vacancy hours resulting from scheduled and unscheduled employee absences.

During 2025, these and other staffing vacancies contributed to:

- 25,538 additional hours worked by other GCFD personnel.
- 2,219 forced-hire hours, representing 185 forced-hire shifts or occurrences.
- 27,757 total overtime/backfill hours required to maintain staffing.

Forced-hire hours represented approximately 8 percent of all 2025 overtime/backfill hours, while the remaining approximately 92 percent was filled through other additional staffing mechanisms. Although forced hires represent the smaller portion of total overtime hours, their effect on employees should not be evaluated exclusively by percentage. Mandatory overtime has a different workforce impact because employees have less control over whether they work the additional hours.

The larger issue is the cumulative workload represented by 27,757 hours of overtime and backfill. These hours are work that must be performed by personnel beyond the department's regularly scheduled staffing arrangement. When distributed repeatedly among the existing workforce, additional work can reduce recovery opportunities and increase the frequency with which employees return to duty during periods that would otherwise be available for rest and personal activities.

This can create a self-reinforcing staffing challenge. Vacancies and employee absences generate overtime; overtime places additional workload on remaining employees; repeated overtime and reduced time away from work can contribute to dissatisfaction and fatigue; and additional turnover creates new vacancies that must again be covered by the remaining workforce. If not addressed, the department can find itself continually recruiting personnel without achieving the staffing stability necessary to materially reduce overtime.

Considering a Four-Platoon Schedule as a Retention Strategy

GCFD is considering transitioning operational personnel currently working the three-platoon schedule to a four-platoon shift configuration. One of the principal considerations associated with this potential change is employee retention and providing personnel with additional scheduled time away from work.

From a workforce perspective, a four-platoon model can provide longer periods between scheduled duty assignments, depending upon the specific schedule selected. Longer periods away from the station can improve opportunities for recovery, family activities, travel, appointments, and other personal responsibilities. For GCFD employees who have family outside South Carolina, longer blocks of scheduled time away from duty may provide greater opportunities to travel without using as much annual leave.

However, the retention benefits of a four-platoon schedule depend substantially on whether the department has sufficient staffing to protect the additional scheduled time off. A schedule that theoretically provides longer periods away from work will have diminished value if vacancies routinely result in employees being forced back to work during those periods.

Accordingly, transitioning to four platoons should not be evaluated simply as a redistribution of existing work hours. CPSM's analysis should consider the number of FTEs necessary to properly staff four platoons, the resulting annual hours worked by employees, minimum and maximum staffing requirements, float capacity, leave utilization, overtime requirements, and the anticipated frequency of forced hires under the alternative schedule.

CPSM assesses that recruitment, retention, shift scheduling, authorized staffing, relief capacity, and overtime are interconnected workforce issues for GCFD. The department's experience of 154 operational employee departures between 2016 and 2025 demonstrates the importance of developing a staffing model that not only attracts qualified applicants but also encourages experienced employees to remain with the organization.

The increase from 11 operational departures in 2024 to 17 in 2025 warrants continued attention, particularly when considered alongside the 27,757 overtime/backfill hours and 2,219 forced-hire hours experienced during 2025. These measures indicate that personnel remaining within the organization are absorbing substantial additional workload to maintain daily staffing.

The reported departure of employees seeking to return closer to family also reinforces the importance of time away from work as a retention consideration. For these employees, the issue may not simply be the number of annual hours worked, but whether the schedule provides sufficiently long and predictable periods away from duty to maintain family relationships and travel outside the region.

The proposed transition from a three-platoon to a four-platoon system should therefore be evaluated as both an operational staffing alternative and a potential recruitment and retention strategy. A schedule providing longer and more predictable periods away from work may improve work-life balance and make GCFD more competitive in recruiting and retaining personnel. However, achieving those benefits will require sufficient authorized staffing and relief capacity to minimize the frequency with which scheduled time off is interrupted by mandatory overtime.

Ultimately, the effectiveness of any shift schedule will depend on whether GCFD has enough personnel to operate it sustainably. Changing the schedule without addressing the underlying causes of vacancies and overtime may redistribute the staffing problem rather than resolve it. Conversely, combining an appropriately designed four-platoon schedule with adequate authorized staffing, sufficient float capacity, effective leave management, competitive compensation, and continued recruitment efforts may provide GCFD with an opportunity to reduce forced hires, improve recovery time, strengthen employee retention, and create a more sustainable workforce model as the department and City continue to grow.

Based on the turnover trends, overtime and backfill requirements, forced-hire activity, and employee concerns regarding available time away from work, CPSM recommends that the City of Goose Creek and GCFD approach recruitment and retention as a comprehensive workforce sustainability issue. The objective should be to reduce avoidable turnover, improve the predictability and quality of employee time away from work, limit reliance on mandatory overtime, and ensure that staffing keeps pace with the continued growth of the City and expansion of GCFD services.

CPSM Recommends:

- The City and GCFD should continue to aggressively evaluate the implementation of a four-platoon schedule for all operational personnel as a recruitment and retention strategy. should evaluate transitioning operational employees currently assigned to the three-platoon 24/48 schedule to a four-platoon system. The evaluation should consider employee recovery, work-life balance, annual hours, family and travel needs, overtime exposure, training requirements, and the City's ability to recruit and retain qualified personnel.
- The City and the GCFD should ensure that any transition to a four-platoon system is supported by sufficient authorized staffing. CPSM does not recommend viewing a four-platoon schedule simply as a redistribution of existing personnel. The City should continue to pursue funding for the 18 additional FTEs necessary to fully implement and sustain the selected 4-platoon schedule while maintaining GCFD's required daily deployment. Adequate staffing is essential if the longer periods away from work associated with a four-platoon system are to produce the intended retention and recovery benefits.
- The GCFD should continue to establish the goal of reducing forced hires and mandatory overtime. GCFD should establish measurable objectives for reducing mandatory overtime. The 2,219 forced-hire hours representing 185 forced-hire shifts or occurrences during 2025 should serve as a baseline against which future performance is measured. Forced hires should remain a contingency staffing mechanism rather than becoming a routine component of the department's staffing model.
- The GCFD should annually evaluate whether its authorized FF/PM float complement is sufficient to absorb predictable vacancies associated with annual leave, sick leave, FMLA, light duty, training, vacancies, and other absences. Float staffing should be based on historical vacancy hours and anticipated staffing needs rather than maintained as a fixed number as the department grows.
- The GCFD should develop an annual staffing-factor analysis and calculate the number of FTEs or hours necessary to reliably fill each continuously staffed operational position after accounting for scheduled and unscheduled leave. The staffing factor should incorporate annual leave, sick leave, FMLA, injury/light-duty impacts, training, vacancies, and other predictable absences. This analysis should be updated annually and used to inform authorized staffing and budget decisions.
- The GCFD should continue to establish overtime and backfill performance indicators. The department should routinely monitor total overtime/backfill hours, voluntary overtime, forced-hire hours, forced-hire occurrences, vacancies by cause, overtime hours per employee, consecutive shifts worked, and the distribution of overtime among employees. The 27,757 overtime/backfill hours experienced in 2025 should provide a baseline for measuring whether future staffing and scheduling changes reduce dependence on additional employee work hours.
- The GCFD should continue to monitor turnover by reason, tenure, rank, and certification. GCFD, in coordination with Human Resources, should continue to conduct structured exit interviews and maintain consistent data regarding why employees leave the organization. Particular attention should be given to employees leaving for other fire departments, employees returning to their home states or regions, schedule-related departures, compensation-related departures, and the loss of Firefighter/Paramedics or employees with specialized qualifications. This will allow the City to distinguish between turnover that can reasonably be influenced by organizational changes and turnover resulting from factors outside the City's control.
- The GCFD should conduct stay-interviews and employee-feedback processes. Exit interviews identify problems after an employee has decided to leave. The GCFD in conjunction with

Human Resources should supplement these with periodic stay interviews or structured workforce surveys that ask employees what influences their decision to remain, what factors may cause them to leave, how the current schedule affects their families and recovery, and what organizational changes would most improve retention. This information should be reviewed alongside objective staffing, overtime, and turnover data.

- The GCFD should develop a multi-year operational workforce plan tied to City growth in the form of a *Standards of Cover* analysis. As Goose Creek grows and GCFD expands stations, companies, Medic units, and services, the City should forecast operational staffing requirements over a multi-year period. The plan should include line personnel, Company Officers, Engineers/Driver Operators, Paramedics, Battalion Chiefs, and float/relief personnel. New operational resources should include the relief staffing necessary to sustain those resources rather than budgeting only for the personnel physically assigned to the apparatus each day.
- The GCFD should establish measurable outcomes following any shift-schedule change. If GCFD successfully transitions to a four-platoon system, the City should conduct formal reviews after approximately 12 and 24 months. At a minimum, the evaluation should compare employee turnover, vacancies, sick leave, overtime/backfill hours, forced hires, recruitment activity, employee satisfaction, leave availability, training participation, and operational performance with the baseline established before implementation.

In conclusion, ***CPSM recommends*** that the City view a potential transition to a four-platoon schedule as one component of a broader recruitment, retention, and workforce sustainability strategy, rather than as a stand-alone solution. GCFD's turnover history and 2025 overtime experience indicate that the department's staffing system is placing additional demands on existing personnel. The combination of 27,757 overtime/backfill hours and 185 forced-hire shifts or occurrences illustrates the importance of ensuring that scheduled staffing and relief capacity are sufficient to meet actual workforce needs.

A four-platoon system may provide meaningful retention advantages by creating longer and more predictable periods away from work, particularly for employees who need sufficient time to travel to visit family outside the region. Those advantages, however, will be realized only if staffing is sufficient to protect the additional time away from duty. If personnel routinely return during scheduled off-duty periods to cover vacancies, the principal quality-of-life benefit of changing schedules will be diminished.

For this reason, ***CPSM recommends*** that schedule design, authorized staffing, float capacity, overtime management, recruitment, and retention be addressed together. The long-term objective should be a staffing model in which GCFD can maintain its required daily deployment, accommodate normal employee leave, provide reasonable and predictable recovery periods, and minimize reliance on forced hires. Achieving that balance will strengthen employee retention while providing the workforce capacity necessary for GCFD to keep pace with the continued growth of Goose Creek and the expansion of fire and EMS services.

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Goose Creek Fire Department Shift Schedule Employee Survey

The City of Goose Creek retained the Center for Public Safety Management (CPSM) to conduct an operational workforce analysis of the Goose Creek Fire Department (GCFD), focusing specifically on personnel perceptions regarding the department's current shift schedule framework and evaluating potential alternative shift models. To gather direct feedback, CPSM administered a comprehensive *Shift Schedule Change Survey* to the field operations staff.

The primary objective of this analysis is to evaluate workforce sentiment, identify operational challenges tied to current shift hours, and provide evidence-based data to guide future scheduling decisions, risk management, and long-term workforce sustainability.

Participation across the organization was exceptionally strong, with 64 out of 70 department operational members completing the survey. This high response rate provides a statistically realistic representation that accurately reflects the perspectives of the GCFD workforce. Overall, the survey findings reveal significant organizational and operational drivers that warrant immediate administrative consideration, particularly regarding personnel well-being, fatigue mitigation, recruitment and retention risks, and a decisive collective preference for a modernized shift model.

The current shift routine presents well-being and fatigue concerns across the department. Over 81% of respondents report that the current schedule negatively impacts their mental well-being, while an overwhelming majority state that it adversely affects morale and leaves inadequate recovery time between shifts.

These scheduling challenges serve as a primary driver for recruitment and retention. Every single respondent (100%) agrees that a schedule change would promote prospective recruitment, while nearly 98% agree it would improve overall retention. Crucially, over 73% of personnel state that a schedule change will directly influence their personal decision to remain with the department long-term.

Department personnel express a strong need for municipal action, with over 92% supporting the City's continued exploration of alternative shift schedules. When evaluating proposed options, personnel voice a decisive preference for a Four-Platoon Shift Schedule modeled after Goose Creek EMS (82.54%). Furthermore, personnel exhibit high operational adaptability, expressing strong willingness to navigate temporary scheduling inconveniences and administrative adjustments to ensure a successful transition.

While GCFD personnel maintain strong professional dedication to public safety and community service, the survey data highlights current structural scheduling challenges that directly affect workforce health and departmental resilience. Addressing these core schedule concerns, specifically expanding recovery windows, and modernizing shift structures, will be essential for mitigating burnout, supporting firefighter wellness, and ensuring long-term staffing stability for the City of Goose Creek.

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SURVEY METHODOLOGY

A total of 64 responses were collected from GCFD field operations personnel out of 70 total field operations staff, resulting in an exceptionally high response rate of 91.4%. The survey was disseminated via email exclusively to active field operations staff. This outstanding participation rate confirms that the findings provide an accurate, statistically realistic representation of broad sentiment across the GCFD operational workforce.

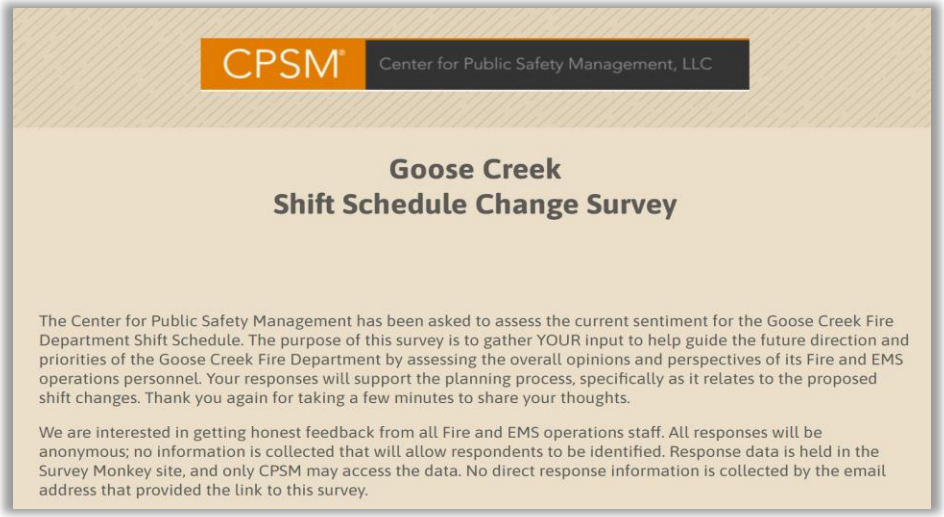
Most survey questions utilized a 5-point scale prompting respondents to indicate their degree of agreement or satisfaction with specific operational statements. Several open-ended comment fields were provided at the conclusion of survey questions, allowing personnel the opportunity to expand on their perspectives, offer qualitative context, and detail operational nuances not fully captured by standardized rating scales.

The GCFD Shift Schedule Survey achieved a 91.4% response rate.

The survey was formatted as an online form using the SurveyMonkey platform. A survey link was distributed directly to GCFD operations staff via email by the CPSM project manager.

Respondents were provided with a brief description of the survey and were assured their responses would remain anonymous. No identifying information was collected beyond basic demographic information.

The GCFD Shift Schedule Change Survey was accessible to operations staff for response from August 14, 2025, through September 4, 2025.


CPSM Center for Public Safety Management, LLC

Goose Creek
Shift Schedule Change Survey

The Center for Public Safety Management has been asked to assess the current sentiment for the Goose Creek Fire Department Shift Schedule. The purpose of this survey is to gather YOUR input to help guide the future direction and priorities of the Goose Creek Fire Department by assessing the overall opinions and perspectives of its Fire and EMS operations personnel. Your responses will support the planning process, specifically as it relates to the proposed shift changes. Thank you again for taking a few minutes to share your thoughts.

We are interested in getting honest feedback from all Fire and EMS operations staff. All responses will be anonymous; no information is collected that will allow respondents to be identified. Response data is held in the Survey Monkey site, and only CPSM may access the data. No direct response information is collected by the email address that provided the link to this survey.

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SURVEY FINDINGS

The GCFD Shift Schedule Change Survey was organized into targeted operational topic areas. To accurately capture workforce sentiment across different topics, statements and questions utilized customized 5-point rating scales tailored to the specific metric being evaluated (including Agreement, Satisfaction, Support, and Personal Importance scales). Standardized numerical values (1 to 5) were applied across all scale types, where 1 represents the most negative sentiment or lowest priority and 5 represents the most positive sentiment or highest priority.



A higher weighted average (WA) indicates higher overall alignment or satisfaction, while a lower weighted average represents greater disapproval or concern.

Weighted Average Translation Key (1-5 Scale)

Score Range Sentiment Meaning

12. 1.00 – 1.80 Overwhelming Disagreement (Critical Negative)

13. 1.81 – 2.60 Disagreement (Negative Trend)

14. 2.61 – 3.40 Neutral / Mixed (Area of Concern)

15. 3.41 – 4.20 Agreement (Positive Trend)

16. 4.21 – 5.00 Strong Agreement (Key Strength)

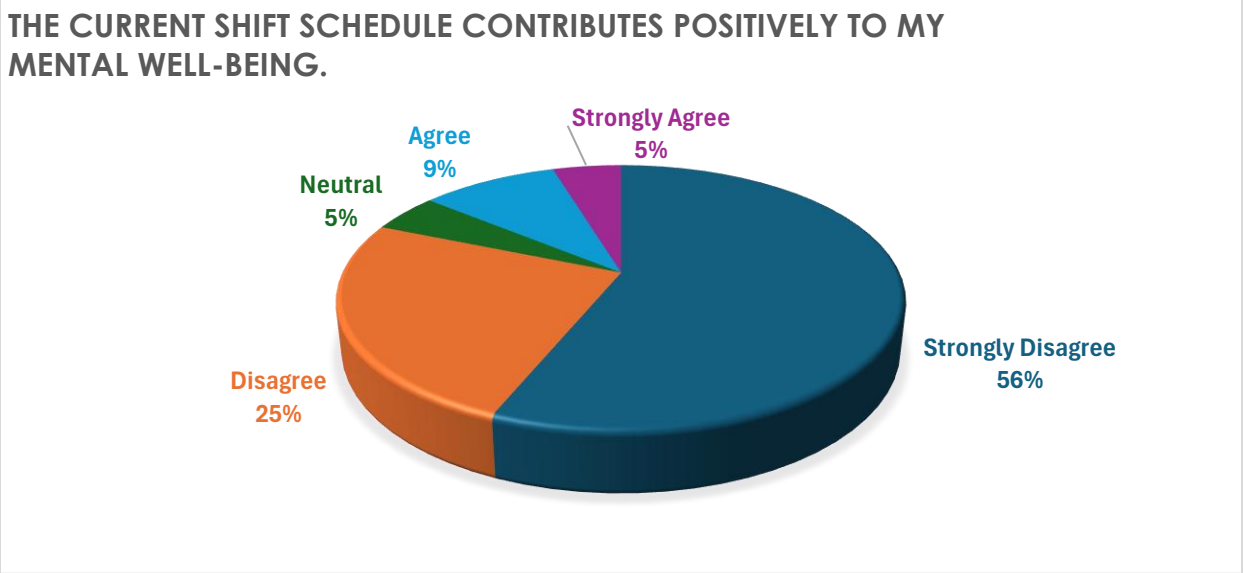
A neutral answer on a 5-point scale indicates that the respondent neither agrees nor disagrees or feels neutral regarding the statement or question being evaluated. It represents a midpoint on the scale, often labeled as "neutral," "undecided," or "no opinion". Selecting this option suggests that the respondent does not have a strong positive or negative view about the topic, may feel indifferent, or may not have enough information or experience to form a definitive opinion. In survey analysis, neutral responses are important because they can reveal areas where respondents are uncertain, disengaged, or perceive the issue as balanced, offering valuable context for interpreting overall attitudes and trends.

The survey begins on the next page.

Q1. Perceptions of Current Shift Schedule & Well-Being

This metric evaluates whether field operations personnel feel the current 24/48 shift routine actively supports their overall mental health and psychological well-being. A weighted average score of 1.67 places this metric in the *Overwhelming Disagreement*.

Statement 1: The current shift schedule contributes positively to my mental well-being.



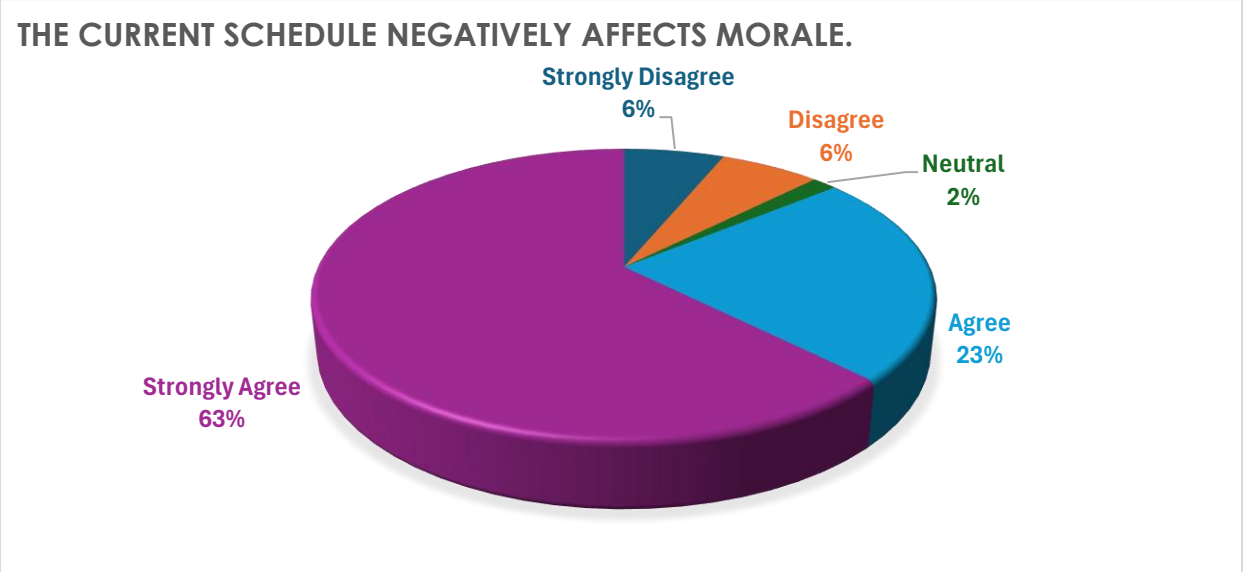
Answer Choice	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighted Average
Percentage	36	16	3	6	3	1.67

Qualitative open comment feedback reflects significant mental strain associated with the current rotation. Personnel frequently describe the 48-hour break as a brief cycle of physical recovery followed by immediate preparation for the next shift, leaving little room for mental decompression.

Q2. The current schedule negatively affects morale.

This statement gauges workforce perception regarding the broader organizational impact of the current schedule on daily shift morale. With 85.94% of respondents agreeing or strongly agreeing, the weighted average of 4.38 indicates Strong Agreement.

Statement 2: The current schedule negatively affects morale.



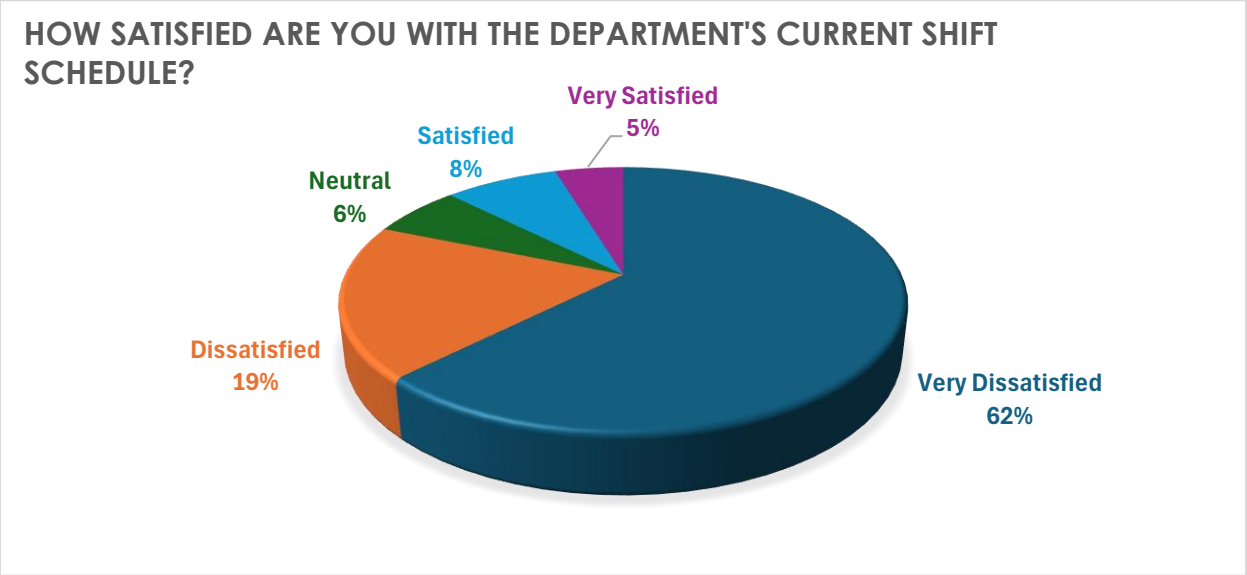
Answer Choice	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighted Average
Percentage	4	4	1	15	40	4.38

Open-ended comments emphasize that chronic exhaustion and forced overtime severely degrade workplace morale. Respondents note that firefighters frequently report to duty already fatigued, leading to frustration and lower overall job satisfaction across the ranks.

Q3. How satisfied are you with the department's current shift schedule?

This question measures general satisfaction levels among operational staff regarding the existing 24/48 work schedule. Generating a weighted average of 1.61, responses reflect the Overwhelming Dissatisfaction range.

Statement 3: How satisfied are you with the department's current shift schedule?



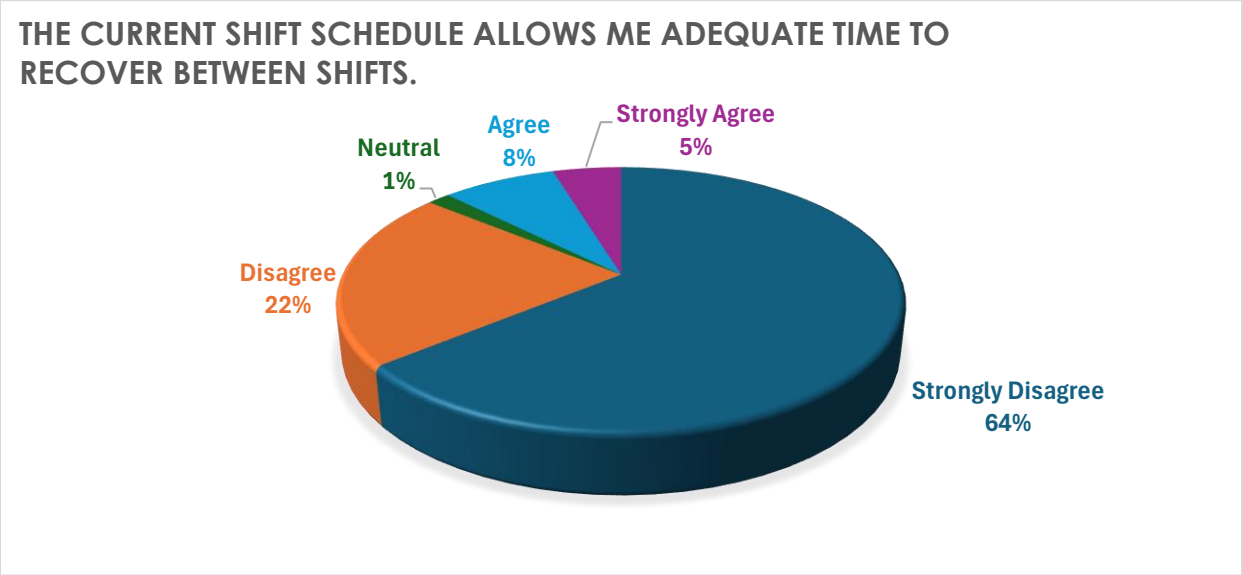
Response	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Weighted Average
Percentage	40	12	4	5	3	1.61

Comments express widespread dissatisfaction with the traditional 3-platoon model. Numerous staff members highlight that surrounding agencies are adopting modern 4-platoon options, making GCFD's current schedule increasingly uncompetitive and draining.

Q4. The current shift schedule allows me adequate time to recover between shifts.

This statement examines whether the 48-hour off-duty period provides sufficient physical and physiological recovery following 24-hour operational tours. A weighted average of 1.56 reflects Overwhelming Disagreement.

Statement 4: The current shift schedule allows me adequate time to recover between shifts.



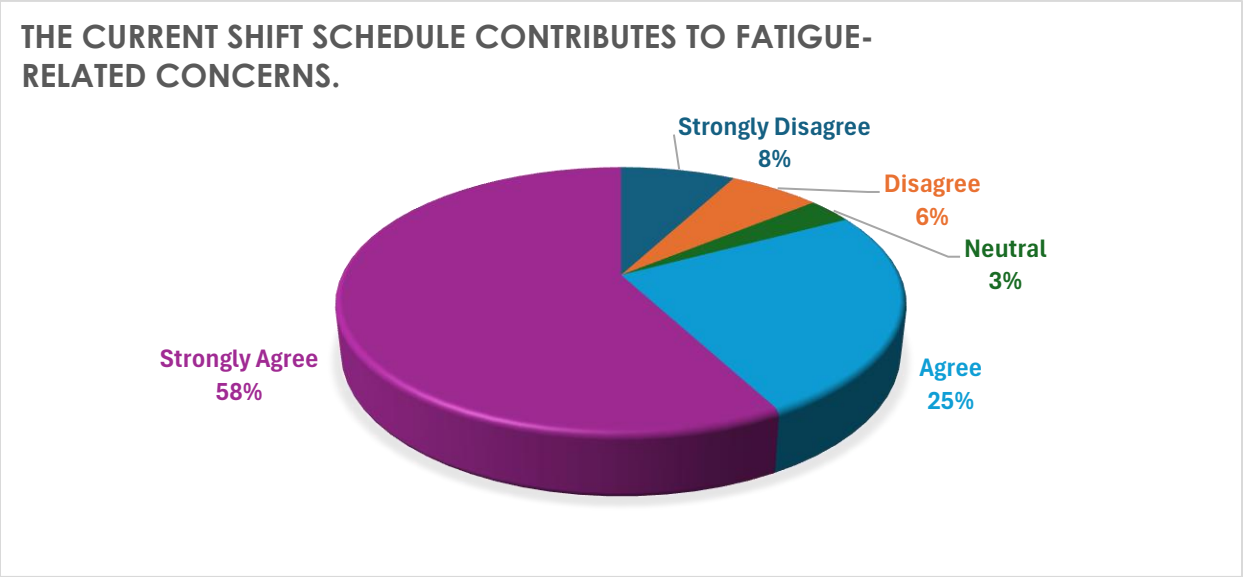
Response	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighted Average
Percentage	41	14	1	5	3	1.56

Qualitative feedback strongly indicates that the first day off is almost entirely lost to sleep recovery. Personnel emphasize that high call volumes and late-night alarms create severe sleep debt that cannot be restored in a single true day of rest.

Q5. The current shift schedule contributes to fatigue-related concerns.

This metric evaluates perceived operational and health risks stemming from firefighter fatigue under the current schedule. Over 82% of respondents agree, yielding a weighted average of 4.27.

Statement 5: The current shift schedule contributes to fatigue-related concerns.



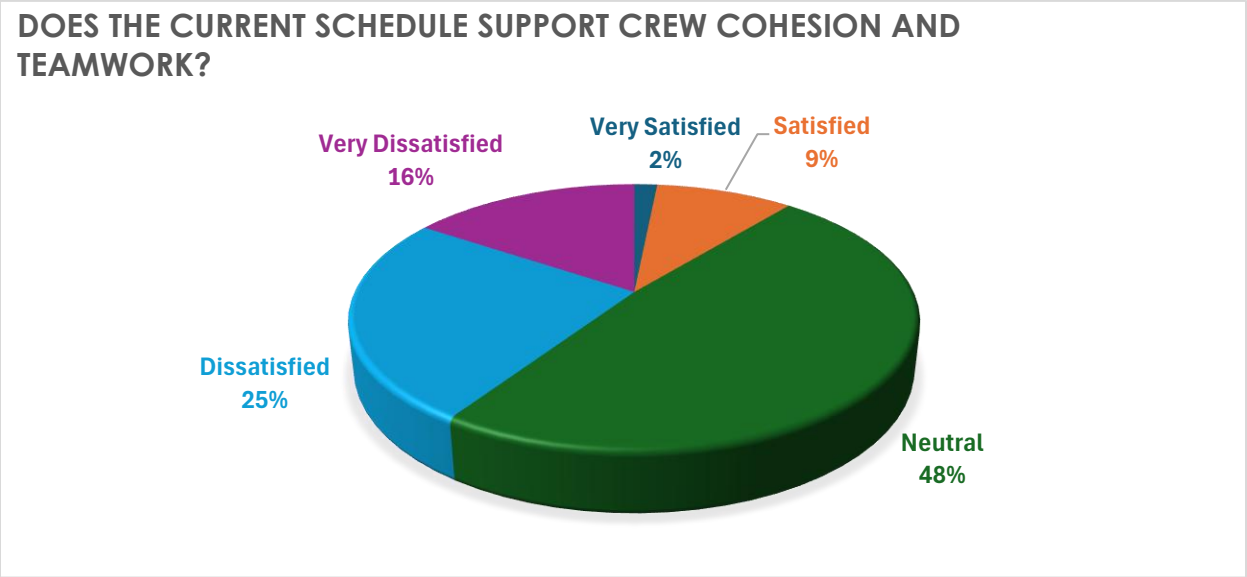
Response	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighted Average
Percentage	7.81%	6.25%	3.12%	25.00%	57.81%	4.27

Staff express serious concerns over cumulative fatigue, citing disrupted circadian rhythms, reliance on caffeine, and heightened safety risks during emergency responses and post-shift commutes home.

Q6. Does the current schedule support crew cohesion and teamwork?

This question explores whether the current shift structure fosters long-term crew stability, team bonding, and operational continuity. The resulting weighted average of 2.55 falls into the Disagreement category.

Statement 6: Does the current schedule support crew cohesion and teamwork?



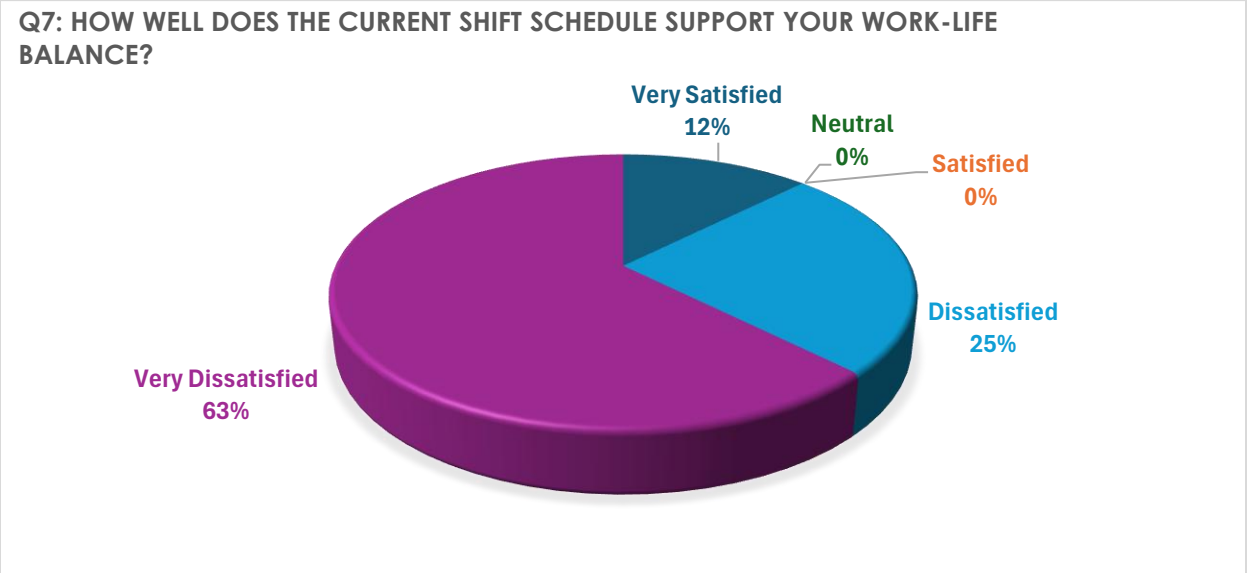
Response	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Weighted Average
Percentage	1.56%	9.38%	48.44%	25.00%	15.63%	2.55

While personnel express strong trust in their immediate peers, comments note that fatigue-induced sick leave, overtime coverage, and forced holdovers frequently break up established crews, undermining unit continuity.

Q7. How well does the current shift schedule support your work-life balance?

This question measures the schedule's compatibility with personal responsibilities, family life, and home obligations. An overwhelming 87.50% express dissatisfaction, generating a weighted average of 1.75 reflecting Overwhelming Dissatisfaction.

Statement 7: How well does the current shift schedule support your work-life balance?



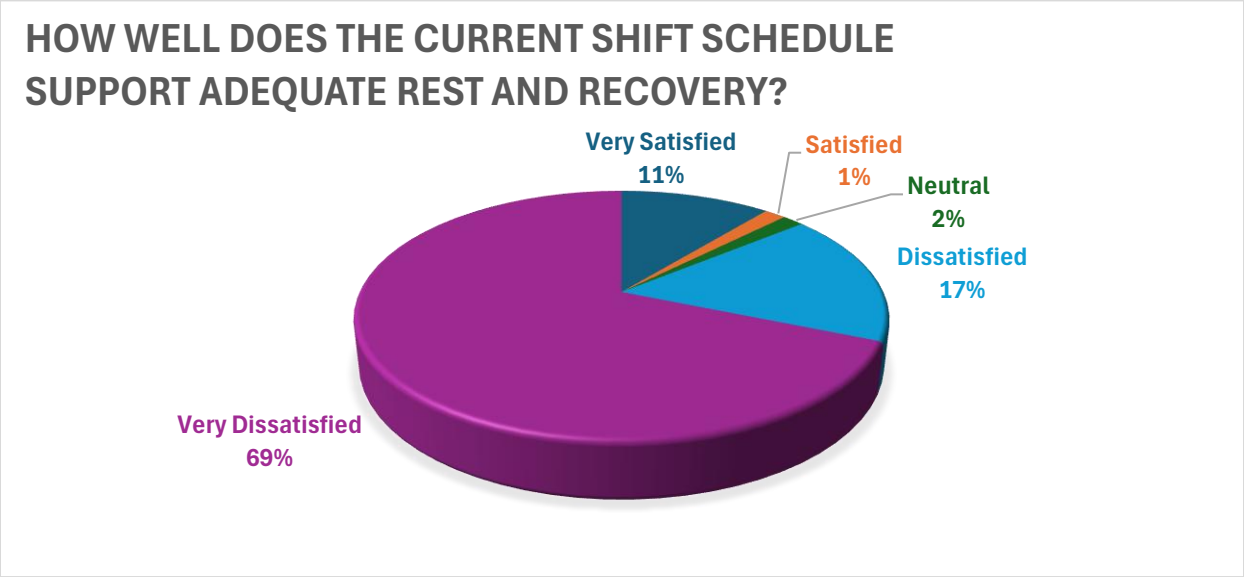
Response	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Weighted Average
Percentage	12.50%	0.00%	0.00%	25.00%	62.50%	1.75

Open comment responses reflect notable personal strain, with members reporting missed family milestones, spouse burnout, and difficulty managing household responsibilities while functioning on minimal sleep.

Q8. How well does the current shift schedule support adequate rest and recovery?

This metric assesses long-term rest and physiological recovery windows beyond immediate post-shift sleep. The weighted average score of 1.67 signifies Overwhelming Dissatisfaction.

Statement 8: How well does the current shift schedule support adequate rest and recovery?



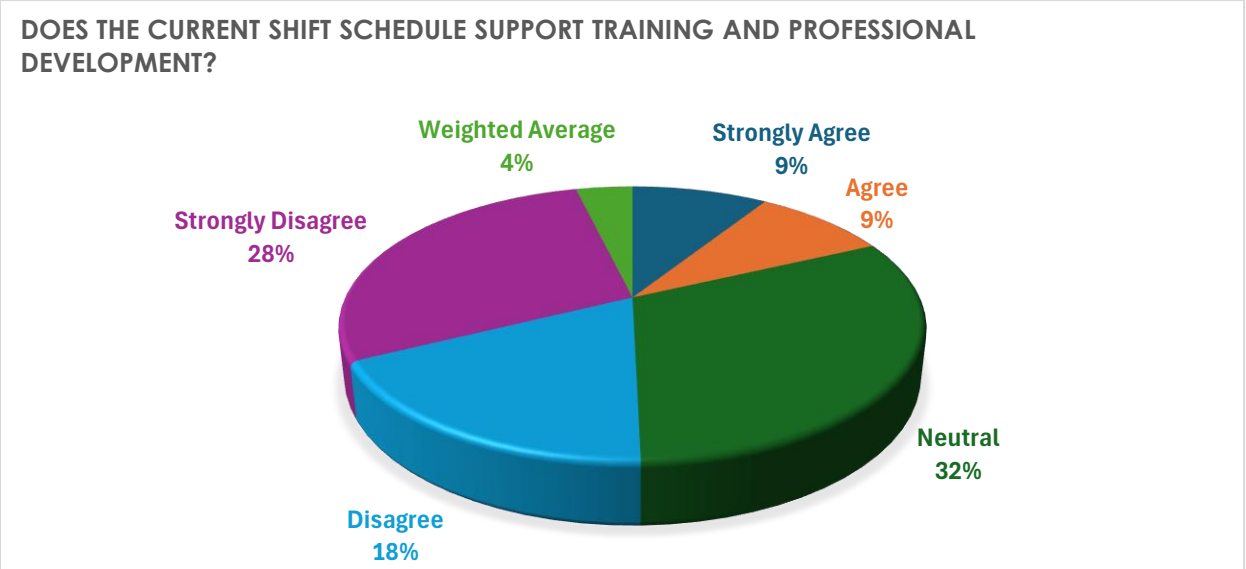
Response	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Weighted Average
Percentage	7	1	1	11	44	1.67

Comments frequently refer to physical burnout and biological stress. Multiple respondents note tracking low recovery scores on personal health monitors (e.g., HRV / WHOOP), demonstrating that 48 hours off is physiologically insufficient to reset.

Q9. Does the current shift schedule support training and professional development?

This question evaluates whether operational personnel have adequate time and energy to engage in off duty professional development and outside training courses. A weighted average of 2.50 represents Disagreement with the current schedule.

Statement 9: Does the current shift schedule support training and professional development?



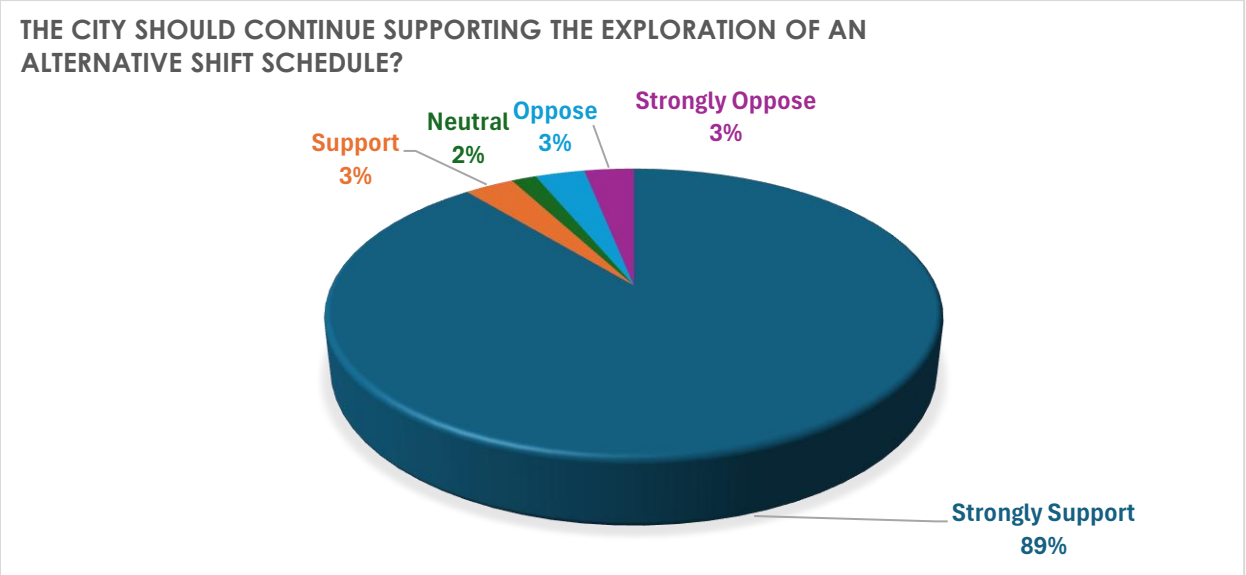
Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	6	6	21	12	19	2.50

Personnel report that attending off-duty training eats into their already limited recovery window. Furthermore, staffing constraints on shift make obtaining training leave difficult, forcing members to choose between personal rest and professional growth.

Q10. The City should continue supporting the exploration of an alternative shift schedule.

This statement measures organizational support for municipal action toward researching and implementing an updated shift model. Over 92% of staff support continued exploration, generating a weighted average of 4.72.

Statement 10: The City should continue supporting the exploration of an alternative shift schedule?



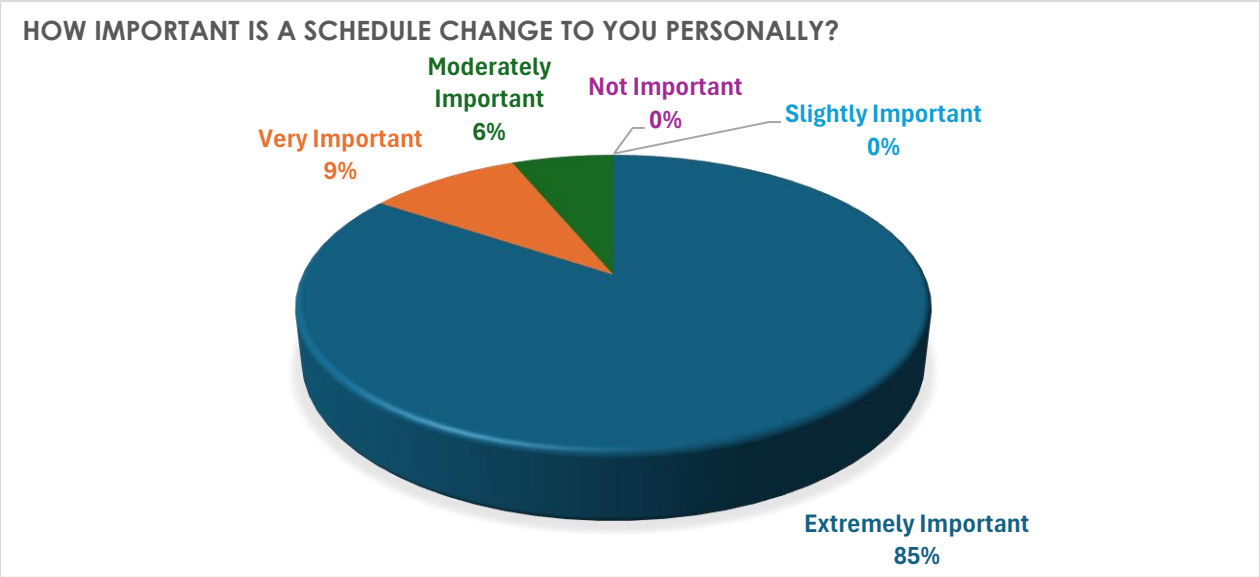
Response	Strongly Support	Support	Neutral	Oppose	Strongly Oppose	Weighted Average
Percentage	57	2	1	2	2	4.72

Comments strongly encourage city leadership to move forward with a schedule change, calling it an essential investment in employee wellness, public safety, and long-term departmental sustainability.

Q11. How important is a schedule change to you personally?

This question measures the personal priority level that individual firefighters place on achieving an updated shift routine. With 93.76% rating it as very or extremely important, the weighted average is 4.78 reflecting overall Strong Importance..

Statement 11: How important is a schedule change to you personally?



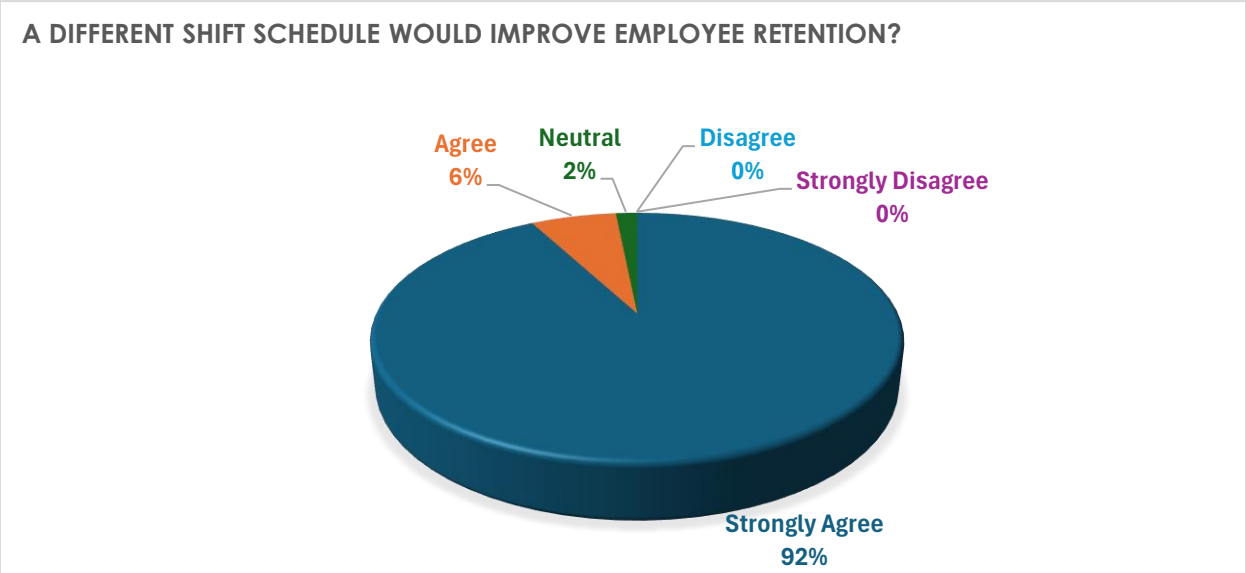
Response	Extremely Important	Very Important	Moderately Important	Slightly Important	Not Important	Weighted Average
Percentage	54	6	4	0	0	4.78

Qualitative responses reflect profound personal effects. Many respondents state that a schedule change is the single most critical factor affecting their health, career longevity, and family well-being.

Q12. A different shift schedule would improve employee retention?

This metric gauges workforce consensus on whether modernizing the shift schedule would reduce turnover and retain experienced line staff. Sentiment is virtually unanimous at 98.44% agreement, resulting in a weighted average of 4.91 reflecting strong agreement.

Statement 12: A different shift schedule would improve employee retention?



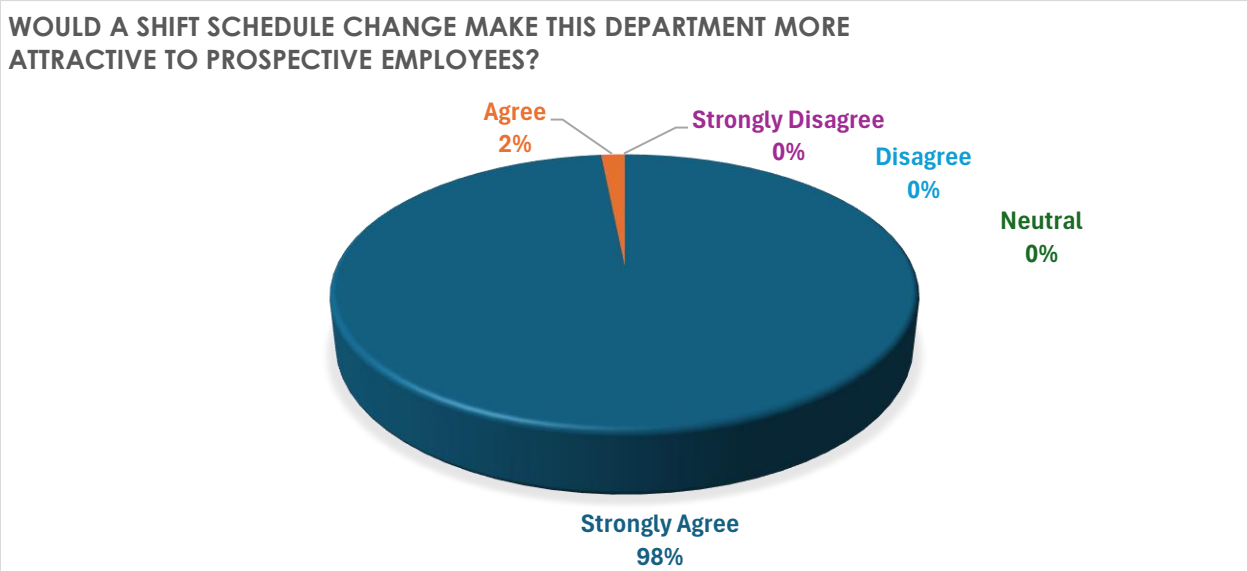
Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	59	4	1	0	0	4.91

Staff emphasize that adopting a 4-platoon schedule would eliminate the "revolving door" of personnel leaving for departments with better work-life balance.

Q13. Would a shift schedule change make this department more attractive to prospective employees?

This statement assesses the perceived recruitment advantage of a modernized schedule in a competitive regional hiring market. 100% of respondents agree, producing a weighted average of 4.98 reflecting strong agreement.

Statement 13: Would a shift schedule change make this department more attractive to prospective employees?



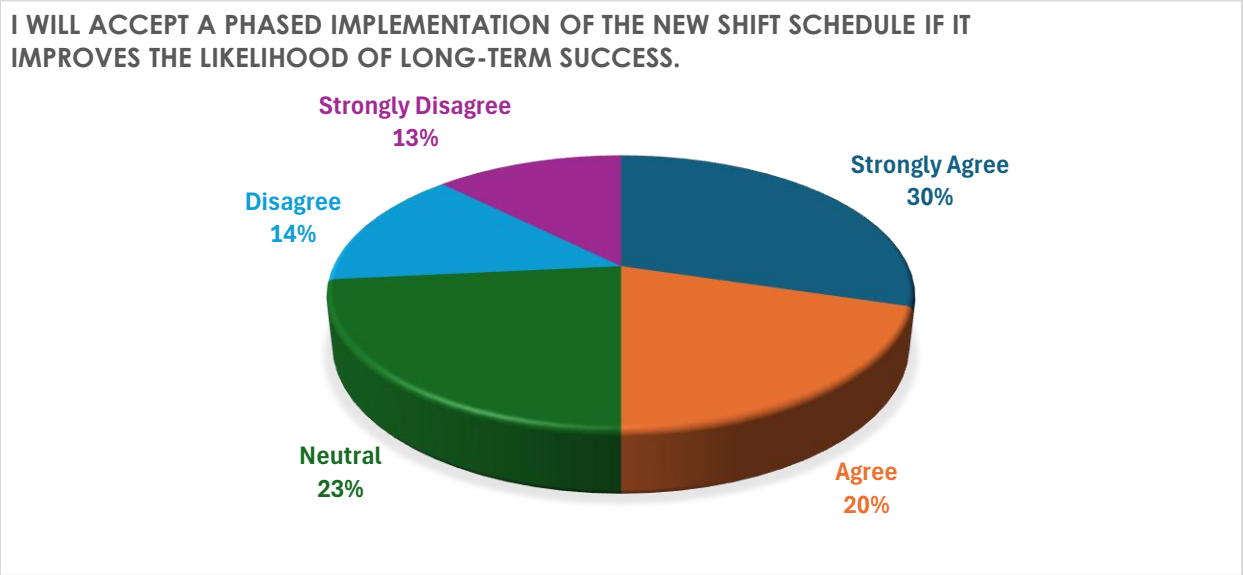
Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	63	1	0	0	0	4.98

Comments predict a dramatic influx of high-quality applicants and experienced lateral recruits, noting that GCFD would become a premier destination department in the state.

Q14. I will accept a phased implementation of the new shift schedule if it improves the likelihood of long-term success.

This question considers workforce willingness to accept a multi-stage rollout of a new schedule if logistically necessary. Responses yielded a weighted average of 3.41.

Statement 14: I will accept a phased implementation of the new shift schedule if it improves the likelihood of long-term success.



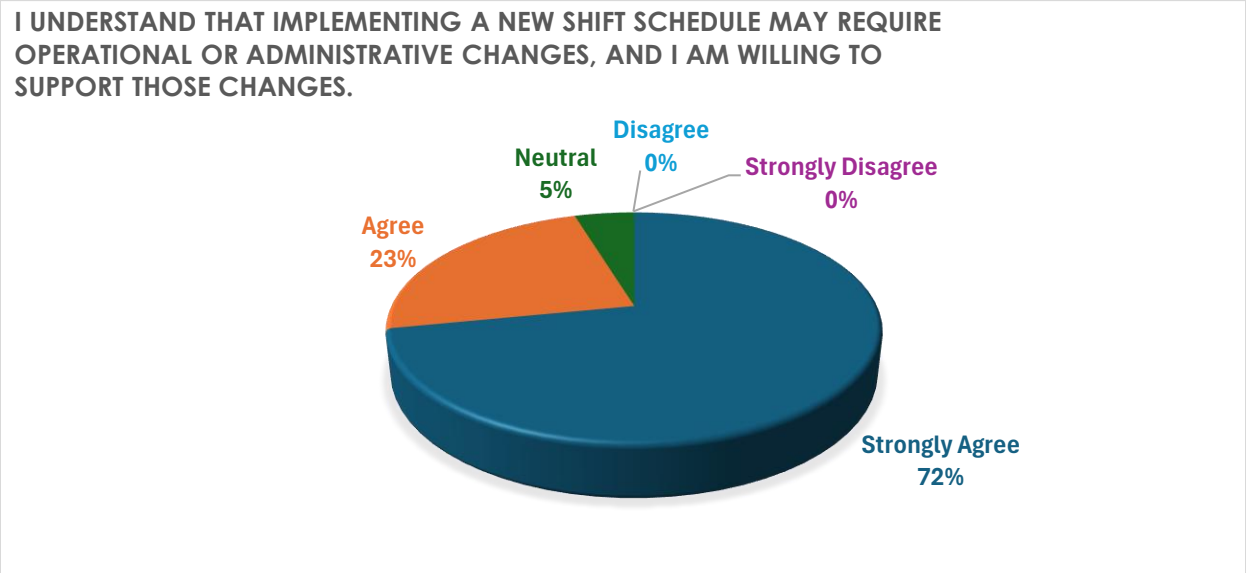
Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	19	13	15	9	8	3.41

While staff are willing to compromise to ensure success, qualitative feedback strongly cautions that a phased rollout could damage morale and crew integrity if one group is left behind on the old schedule for an extended period.

Q15. I understand that implementing a new shift schedule may require operational or administrative changes, and I am willing to support those changes.

This metric measures the workforce's operational flexibility and readiness to adapt to administrative policy adjustments required for a transition. Over 95% agree, resulting in a weighted average of 4.67 reflecting strong agreement.

Statement 15: I understand that implementing a new shift schedule may require operational or administrative changes, and I am willing to support those changes.



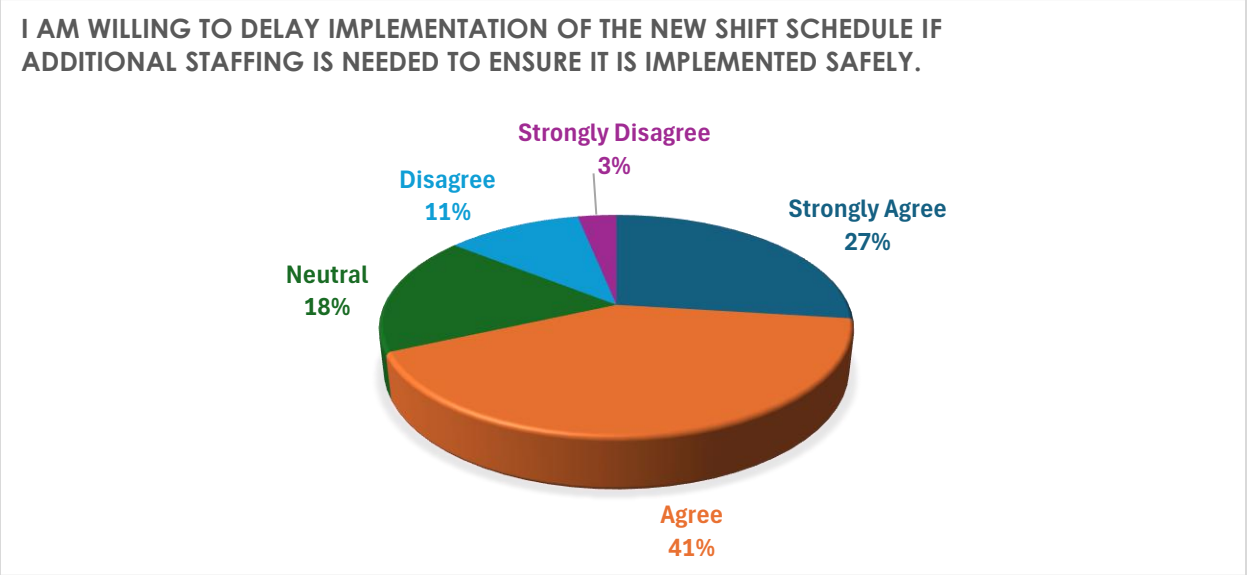
Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	46	15	3	0	0	4.67

Staff convey they hold strong adaptability, expressing that growing pains and administrative shifts are a minor trade-off for achieving a healthier, sustainable work schedule.

Q16. I am willing to delay implementation of the new shift schedule if additional staffing is needed to ensure it is implemented safely.

This statement examines personnel's willingness to postpone a schedule change to guarantee safe operational staffing thresholds. A clear majority (68.25%) agree, generating a weighted average of 3.76.

Statement 16: I am willing to delay implementation of the new shift schedule if additional staffing is needed to ensure it is implemented safely.



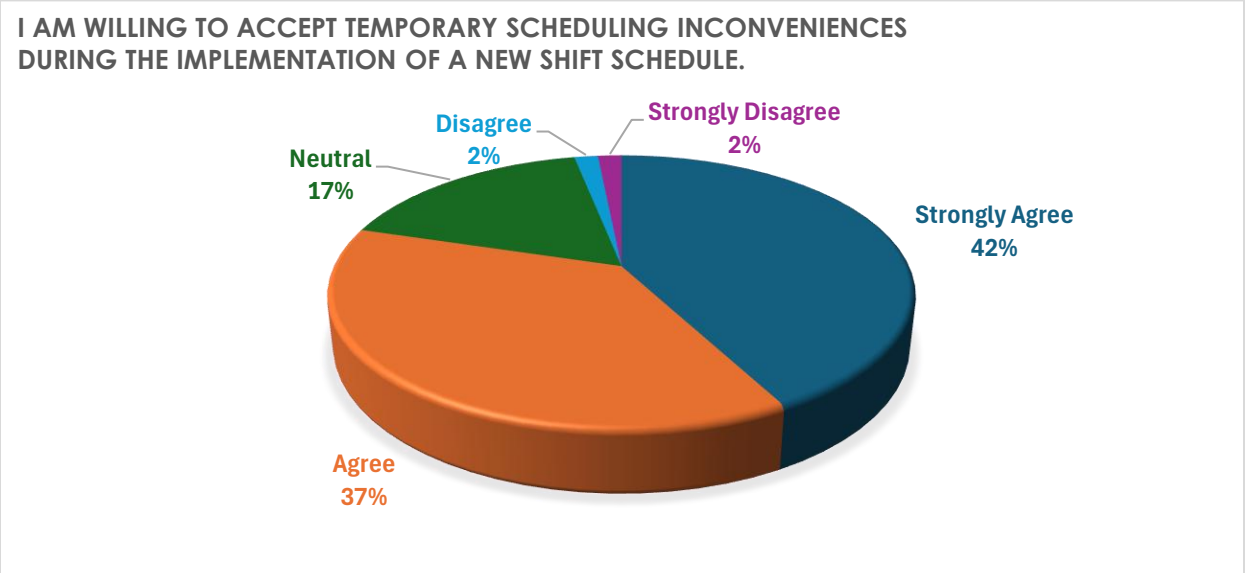
Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	17	26	11	7	2	3.76

Personnel agree that safety is paramount, but many hope that leadership will not prolong implementation unnecessarily, noting that a schedule change itself will rapidly solve staffing shortages through increased recruitment.

Q17. I am willing to accept temporary scheduling inconveniences during the implementation of a new shift schedule.

This metric gauges individual tolerance for short-term scheduling friction or shift adjustments during the transitional phase. Almost 80% agree, yielding a weighted average of 4.17.

Statement 17: I am willing to accept temporary scheduling inconveniences during the implementation of a new shift schedule.



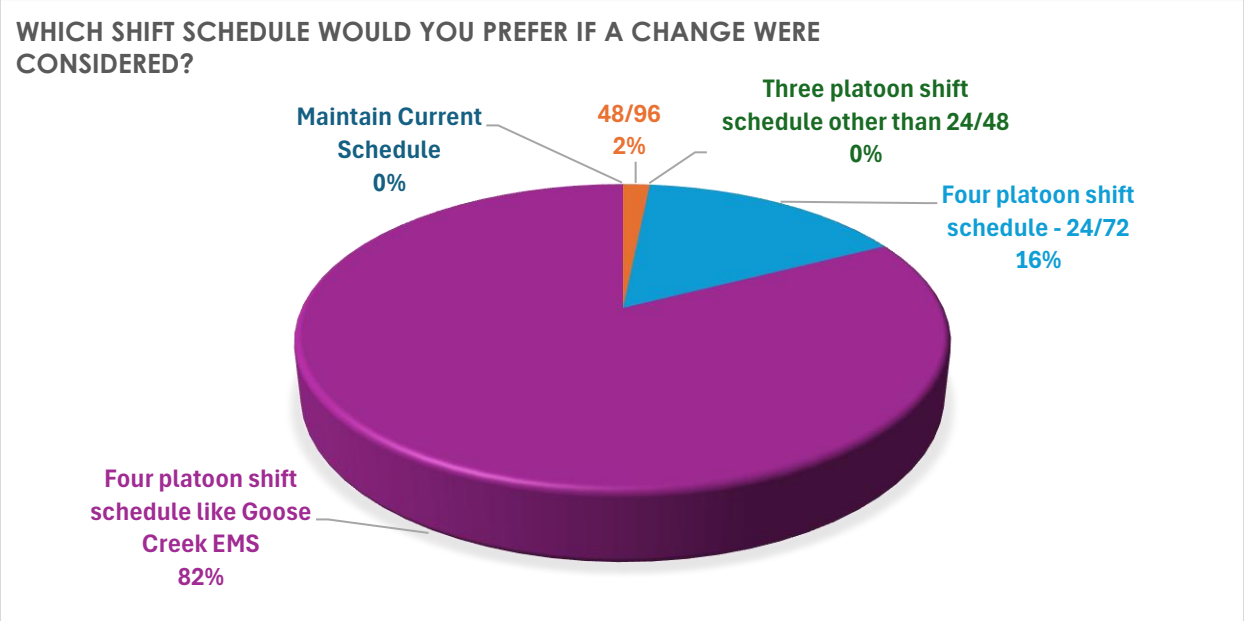
Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	27	24	11	1	1	4.17

Comments reflect high cooperation, with firefighters stating they are fully prepared to navigate short-term inconveniences to achieve long-term schedule improvements.

Q18. Which shift schedule would you prefer if a change were considered?

This question identifies the collective preference of operational staff regarding specific alternative shift models. An overwhelming 82.54% favor a 4-platoon model like Goose Creek EMS, while 15.87% prefer a 24/72 model. Zero respondents selected the current schedule.

Statement 18: Which shift schedule would you prefer if a change were considered?



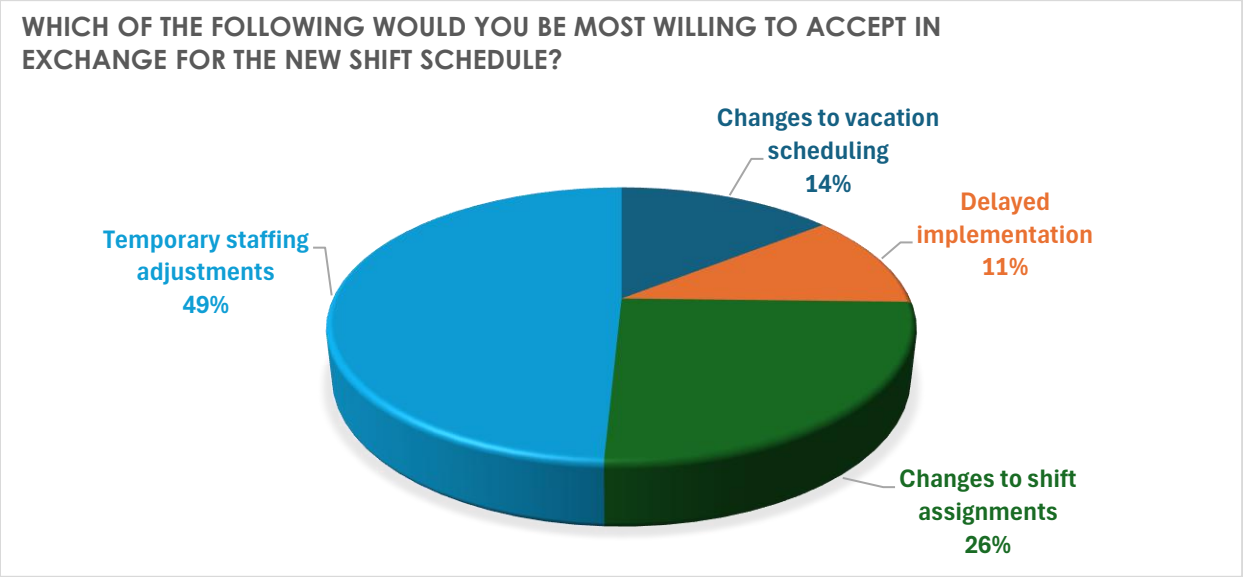
Response	Maintain Current Schedule	48/96	Three platoon shift schedules other than 24/48	Four platoon shift schedule - 24/72	Four platoon shift schedules like Goose Creek EMS	Maintain Current Schedule
Percentage	0	1	0	10	52	0

Staff reference the success of Goose Creek EMS Paramedics on the 4-platoon system, citing proven benefits in rest, morale, and family time as clear evidence for expanding it department-wide.

Q19. Which of the following would you be most willing to accept in exchange for the new shift schedule?

This question identifies the trade-off operational personnel are most willing to make to facilitate a new schedule. A ***solid m***ajority (49.21%) selected temporary staffing adjustments, followed by shift assignment changes (25.40%).

Statement 19: Which of the following would you be most willing to accept in exchange for the new shift schedule?



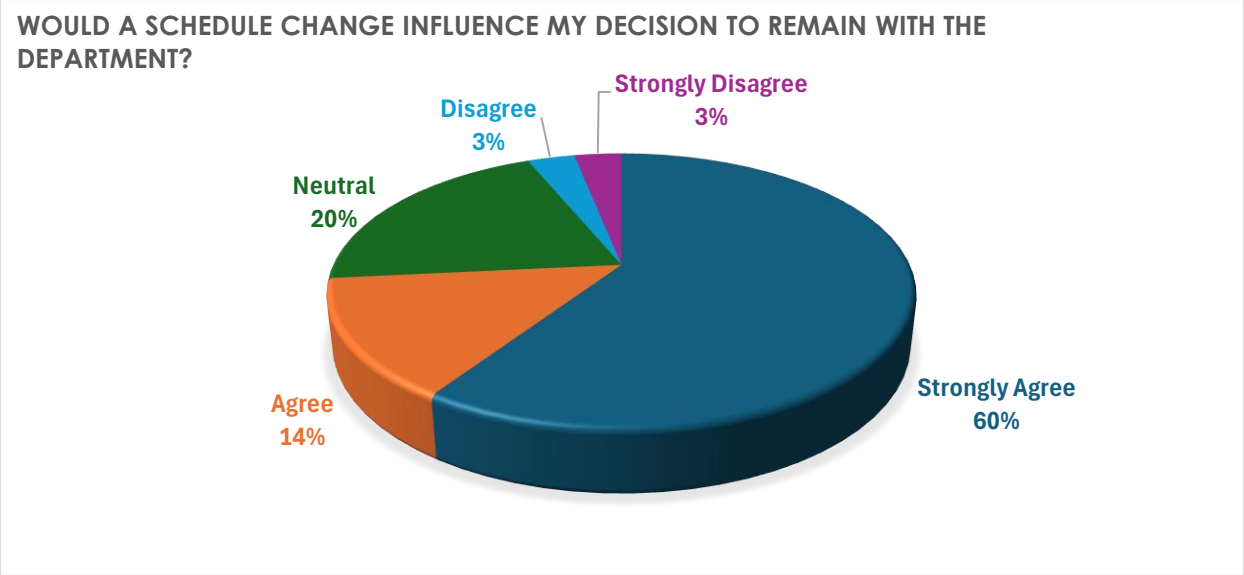
Response	Changes to vacation scheduling	Delayed implementation	Changes to shift assignments	Temporary staffing adjustments
Percentage	9	7	16	31

Feedback reinforces that temporary staffing shifts or moving across crews are minor, short-term adjustments that line personnel are willing to accept in exchange for extended off-duty recovery time.

Q20. Would a schedule change influence my decision to remain with the department?

This final metric directly links the proposed schedule change to long-term career intent and retention risk at GCFD. Over 73% agree, generating a weighted average of 4.22 reflecting strong agreement.

Statement 20: Would a schedule change influence my decision to remain with the department?



Response	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Weighted Average
Percentage	38	9	13	2	2	4.22

Numerous experienced members state that securing a 4-platoon schedule will guarantee their commitment until retirement, whereas remaining on the 24/48 model will force them to seek employment elsewhere to preserve their health and family lives.

End of Survey

End of Section

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Section 2. Shift Schedule Analysis

As previously discussed, the Goose Creek Fire Department (GCFD) is considering a significant modification to its current operational shift schedule, transitioning from a three-platoon, 24-hours-on/48-hours-off (24/48) schedule to a four-platoon staffing model. Under the existing schedule, suppression personnel work an average of approximately 56 hours per week. The proposed four-platoon model would reduce the average scheduled workweek to approximately 42 hours while maintaining continuous, 24-hour fire and EMS service delivery. GCFD has existing experience with a four-platoon schedule, as its firefighter-paramedic float personnel and paramedic specialists currently operate under this staffing arrangement.

The proposed transition represents more than a change in employee work hours; it is a fundamental modification to the department's staffing and deployment structure, with implications for personnel requirements, operational readiness, employee recruitment and retention, overtime expenditures, and long-term financial sustainability. Moving from three to four platoons requires GCFD to establish and maintain an additional operational platoon capable of meeting the department's daily staffing and apparatus deployment requirements. This includes ensuring an appropriate distribution of company officers, apparatus operators, firefighter-paramedics, and other qualified personnel across all four platoons.

An equally important consideration is the department's ability to maintain adequate staffing relief capacity to accommodate scheduled and unscheduled leave, training, vacancies, and other personnel absences without creating an excessive reliance on overtime or mandatory staffing assignments. Consequently, CPSM's evaluation of the proposed four-platoon model considers not only the potential benefits of a reduced workweek for employee recruitment, retention, fatigue management, and overall workforce well-being, but also the additional personnel requirements, operational considerations, and recurring financial commitments necessary to implement and sustain the schedule successfully.

Current Shift Schedule

The Goose Creek Fire Department (GCFD) currently utilizes two distinct operational shift schedules. Fire suppression personnel work a traditional three-platoon schedule consisting of 24 hours on duty followed by 48 hours off duty (24/48), as established in GCFD Guideline Shift Staffing and Coverage, Section I, General Staffing.

In comparison, the department's eight firefighter-paramedic float personnel and eight paramedic specialists operate under a four-platoon schedule consisting of 24 hours on duty, 24 hours off duty, another 24-hour duty period, followed by 120 consecutive hours off duty (24/24/24/120). Both the existing four-platoon schedule and the proposed four-platoon alternative for fire suppression personnel (the same schedule as the EMS and Float staff work) result in an average scheduled workweek of approximately 42 hours.

The existing four-platoon schedule utilized by EMS and firefighter-paramedic float personnel and the proposed four-platoon schedule for fire suppression personnel would be consistent in both the spacing and frequency of duty periods, with each averaging 42 hours per week. Implementing the proposed schedule would establish uniformity across GCFD's entire operational workforce, promoting consistency in scheduling practices, employee rest and recovery periods, workforce management, and overall operational coordination.

Table 4: Current GCFD Shift Schedules

Schedule	Primary GCFD Population	Average Weekly Hours	Annual Scheduled Hours (Approximate)	Operational Observation
24 on 48 off	Current Fire Suppression Shift	56	2,912	Three platoons; greater scheduled hours per employee per year; shorter recovery time between 24-hour tours; fewer total platoons to staff (3 verses 4).
24 on 24 off 24 on 120 off	■ FF/PM Floats ■ Paramedic Specialists	42	2,184	Four platoons; longer recovery period between 24-hour tours; less scheduled hours per employee per year; requires one additional platoon to staff (4 verses 3) + 4 FTEs.

Table 5: Proposed GCFD Shift Schedules

Schedule	Primary GCFD Population	Average Weekly Hours	Approx. Annual Scheduled Hours	Operational Observation
24 on 24 off 24 on 120 off	■ Fire Suppression ■ Staff FF/PM ■ FF/PM Floats ■ Paramedic Specialists	42	2,184	Four platoons; longer recovery period between 24-hour tours; less scheduled hours per employee per year; requires a fully staffed fourth suppression platoon **(+18 FTEs)**. Provides GCFD with internal experience spread across a four-platoon workforce.

The primary advantage of GCFD's existing 24/48 shift schedule is its staffing efficiency, as three operational platoons provide continuous fire suppression coverage throughout the year. The department's current suppression staffing complement, company officer assignments, apparatus deployment, and minimum staffing requirements have been structured around this model.

However, the 24/48 schedule requires more frequent 24-hour duty periods and provides a comparatively shorter interval for rest and recovery between shifts. These characteristics can

contribute to employee fatigue, work-life balance challenges, and concerns regarding long-term workforce sustainability, particularly when scheduled shifts are supplemented by overtime or mandatory staffing assignments. As well, GCFD's internal shift schedule study identifies improved recovery time, employee health and wellness, recruitment, retention, and overall workforce sustainability as principal considerations supporting the evaluation of a four-platoon schedule.

The 3-Plattoon vs. 4-Platoon Schedule Debate

The work schedules utilized by fire and emergency medical services departments have a significant influence on operational readiness, employee health and wellness, recruitment and retention, workforce sustainability, and the financial resources necessary to maintain continuous emergency service delivery. Unlike most municipal employees, firefighters and emergency medical services personnel assigned to 24-hour shifts must remain available to respond to emergencies throughout their entire duty period, including overnight hours when the body would normally be sleeping.

The GCFD currently operates its fire suppression workforce under a three-platoon, 24-hours-on/48-hours-off (24/48) schedule, which results in an average scheduled work week of approximately 56 hours. The department is considering transitioning these personnel to a four-platoon schedule, consistent with the existing schedule utilized by its firefighter-paramedic float personnel and paramedic specialists. Under the proposed four-platoon model, employees would work an average of approximately 42 hours per week, representing a 25 percent reduction in regularly scheduled work hours.

The evaluation of these alternatives extends beyond the number of hours employees are scheduled to work. Fire and EMS personnel operate in physically demanding, psychologically stressful, and frequently unpredictable environments. Emergency responses, particularly those occurring during overnight hours, can interrupt normal sleep patterns, limit opportunities for physical and mental recovery, and contribute to cumulative fatigue. Over time, these conditions can influence employee health, job performance, safety, morale, and decisions regarding continued employment.

Accordingly, CPSM's evaluation of the three-platoon and four-platoon schedules considers the operational and financial advantages of each model, together with the potential implications for sleep interruption, fatigue, employee wellness, work-life balance, recruitment, retention, and long-term organizational sustainability.

CPSM Research

Research examining firefighter and emergency medical services work schedules has identified important relationships between extended duty periods, sleep interruption, fatigue, employee health, and operational safety. Studies published in the *Journal of Clinical Sleep Medicine*, *Safety Science*, and the *Journal of Occupational and Environmental Medicine* have documented the prevalence of sleep-related concerns among firefighters and the influence of shift schedules on sleep duration, sleep quality, and daytime alertness (Barger et al., 2015; Billings et al., 2024; Miller et al., 2026). Additionally, research examining changes in firefighter shift schedules suggests that extended recovery periods may contribute to improved sleep outcomes, although the benefits vary based on incident workload, schedule configuration, and individual circumstances (Billings et al., 2025). Evidence-based guidelines developed for emergency medical services personnel further recognize fatigue as an important occupational

and patient safety concern and emphasize the need for fatigue risk management strategies (Patterson et al., 2018).

CPSM assesses that this body of research supports the consideration of alternative shift schedules as part of GCFD's broader efforts to improve employee health and wellness, reduce cumulative fatigue, and strengthen workforce sustainability. However, the research does not conclusively establish that transitioning to a four-platoon schedule will independently reduce injuries, improve retention, or eliminate fatigue. These potential benefits should be evaluated in conjunction with GCFD's overnight emergency workload, overtime practices, mandatory staffing requirements, and the availability of sufficient recovery time between duty periods.

Comparison of Three-Platoon and Four-Platoon Schedules

The fundamental difference between the two schedules is the frequency of assigned duty periods and the amount of time employees have available for recovery between shifts.

Schedule characteristic	Three-platoon (24/48)	Four-platoon (24/24/24/120)
Number of platoons	3	4
Average scheduled weekly hours	56	42
Average scheduled annual hours	2,912	2,184
Regular duty periods	24 hours	Two 24-hour shifts per 8-day cycle
Off-duty intervals	48 hours	24 hours between shifts, followed by 120 hours.
Extended recovery period	No regularly scheduled extended break.	Five consecutive days after the second duty period.
Staffing requirements	Lower baseline staffing complement.	Higher baseline staffing complement.
Scheduled work-hour reduction	Baseline	25%
Potential employee benefit	Predictable, established rotation.	Extended recovery, fewer annual duty hours.

Annual hours represent average scheduled hours, excluding overtime, leave, and schedule adjustments. Actual FLSA overtime obligations depend on the applicable work period and compensation arrangements.

The three-platoon model offers a straightforward and predictable rotation, with employees working one 24-hour shift followed by two days off. The GCFD proposed four-platoon model maintains 24-hour duty periods but provides an extended five-day recovery interval following two shifts separated by 24 hours off.

Although the four-platoon model reduces overall scheduled hours, it does not eliminate the possibility of fatigue. In particular, the 24-hour off-duty interval between the two assigned shifts may provide limited recovery when the first shift includes significant overnight emergency

activity. Nevertheless, the extended recovery period following the second shift provides employees with additional opportunities for restorative sleep, family activities, personal responsibilities, and physical and mental recovery.

Advantages and Disadvantages of the Three-Platoon 24/48 Schedule

Operational and Financial Advantages

The principal advantage of the traditional 24/48 schedule is its relative staffing efficiency. Three platoons can provide continuous staffing for a 24-hour operational position, reducing the number of baseline personnel required compared with a four-platoon system.

For GCFD, the existing suppression staffing complement, officer assignments, apparatus deployment, and minimum staffing requirements have been developed around this schedule. Maintaining the current model avoids the immediate expense of establishing a fourth suppression platoon and reduces the number of additional personnel needed to preserve existing daily deployment.

The 24/48 schedule also provides predictable work patterns that are familiar to many career firefighters. Employees know their assigned duty days well in advance, which can assist with personal scheduling and family planning. The model also provides opportunities for continuity in training, company assignments, and operational responsibilities.

From a municipal budgeting perspective, the three-platoon model generally requires fewer authorized positions to staff the same number of daily apparatus riding assignments. This can represent a substantial financial advantage when considering salaries, employee benefits, retirement contributions, and other recurring personnel expenses.

Disadvantages and Workforce Considerations

The principal disadvantage of the 24/48 schedule is the frequency of assigned duty periods and the comparatively limited recovery time between shifts.

Personnel return to work every third day, regardless of the physical demands, emergency workload, or amount of sleep obtained during the previous shift. When employees experience multiple overnight emergency responses, the following 48-hour period may not provide sufficient time for complete recovery before their next assigned duty period.

This concern becomes more significant when scheduled shifts are supplemented by overtime, mandatory staffing assignments, training requirements, or other work-related obligations.

For example, an employee completing a 24-hour shift with several overnight EMS responses may leave work physically and mentally fatigued. The first portion of the employee's off-duty period may be spent recovering from the previous shift rather than engaging in family activities, personal responsibilities, or recreation. If the employee is subsequently required to work an additional shift during the scheduled 48-hour break, the opportunity for meaningful recovery may be substantially reduced.

In departments experiencing staffing shortages, the frequency of mandatory overtime can compound these concerns. An employee who is routinely required to work additional shifts may experience cumulative fatigue, reduced job satisfaction, increased family stress, and a greater likelihood of seeking employment with another department offering a more favorable schedule.

For GCFD, where recruitment and retention are important considerations, the continued use of the 24/48 schedule must be evaluated in relation to the changing expectations of the fire and EMS workforce and the availability of alternative employment opportunities.

Advantages and Disadvantages of a Four-Platoon Schedule

Employee Health, Wellness, and Recovery

A principal advantage of the four-platoon schedule is the reduction in total scheduled work hours and the availability of extended off-duty periods.

Under the proposed model, fire suppression employees would work approximately 728 fewer regularly scheduled hours annually than under the existing 24/48 schedule. This reduction represents a significant change in the amount of time employees spend at work and may provide opportunities for improved recovery, personal wellness, and work-life balance.

The five-day recovery period following the second 24-hour shift can be particularly beneficial for employees experiencing significant sleep interruption, demanding emergency responses, or accumulated fatigue.

Extended recovery periods may allow employees to reestablish normal sleep patterns, participate in physical fitness activities, attend medical appointments, spend uninterrupted time with family, and address personal responsibilities without the recurring pressure of returning to work every third day.

However, the benefits depend partly on how employees use their off-duty time. Extended breaks do not automatically result in better sleep or improved health, particularly when employees may have irregular sleep patterns or other activities that limit recovery.

Recruitment and Retention

The four-platoon schedule may provide GCFD with an important competitive advantage in recruiting and retaining qualified firefighters and firefighter-paramedics.

Fire departments increasingly compete for personnel in a labor market where compensation, retirement benefits, organizational culture, career development, and work schedules influence employment decisions.

A schedule providing fewer annual duty hours and extended recovery periods may be particularly attractive to employees seeking improved work-life balance and greater predictability in their personal lives.

For existing personnel, a transition to a four-platoon schedule may improve job satisfaction and demonstrate an organizational commitment to employee health and wellness. These factors may contribute to improved retention, particularly among employees who are considering employment with other departments offering reduced workweeks or more favorable schedules.

Nevertheless, schedule changes should not be viewed as a complete solution to recruitment and retention challenges. Compensation, leadership, organizational culture, advancement opportunities, mandatory overtime, and employee engagement remain important considerations.

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Operational and Financial Challenges

The principal disadvantage of a four-platoon schedule is the additional staffing and financial commitment necessary to maintain existing daily deployment.

For the same number of continuously staffed operational positions, a four-platoon model requires one additional platoon that mirrors the 3-platoon system before accounting for leave relief and other staffing considerations. The department must also ensure that the fourth platoon contains the appropriate number of company officers, apparatus operators, firefighter-paramedics, and other qualified personnel necessary to maintain operational readiness.

This represents a substantial recurring investment in salaries, benefits, retirement contributions, recruitment, training, and associated personnel costs.

A further consideration is the potential for overtime costs to remain elevated if the department does not establish sufficient relief capacity. While a four-platoon schedule reduces regularly scheduled work hours, it does not automatically eliminate staffing shortages or mandatory overtime. If the department transitions without adequate staffing, the intended employee wellness and recovery benefits could be diminished.

Sleep Interruption and Fatigue in Fire and EMS Operations

One of the most important considerations in evaluating fire department shift schedules is the effect of sleep interruption and cumulative fatigue on employee health, safety, and operational performance.

Firefighters and EMS personnel assigned to 24-hour shifts are expected to maintain operational readiness throughout their duty periods. Although employees may have opportunities to sleep during overnight hours, emergency calls, station activities, alarms, and other responsibilities can interrupt sleep repeatedly.

Unlike employees working traditional daytime schedules, firefighters and EMS personnel cannot reliably predict when they will be able to sleep or how frequently that sleep will be interrupted.

Sleep Interruption During 24-Hour Shifts

Sleep interruption can be particularly problematic during the overnight hours, when the body's circadian rhythm promotes sleep and alertness naturally declines.

Fire and EMS personnel may be awakened from deep sleep and required to transition immediately into a high-stress emergency response. Within minutes, personnel may need to operate emergency vehicles, assess critically ill patients, perform advanced medical procedures, enter hazardous environments, or make decisions with significant life safety consequences.

Repeated overnight alarms can fragment sleep, reducing the amount of restorative sleep obtained even when the total time spent in bed appears adequate.

For example, an employee may have six hours available for sleep during a shift but experience three or four emergency responses during that period. The resulting sleep may be divided into several short intervals, limiting normal progression through sleep stages and reducing overall sleep quality.

This distinction is important because the quality and continuity of sleep can be as important as the total number of hours available for sleep.

Sleep fragmentation can affect alertness, concentration, memory, decision-making, mood, and physical performance. These effects may continue into the following day and can become more pronounced when personnel experience repeated nights of interrupted sleep.

Cumulative Fatigue

Fatigue in fire and EMS operations is not limited to a single demanding shift. When employees repeatedly experience insufficient or interrupted sleep, the effects can accumulate over time.

Cumulative fatigue may occur when personnel return to duty before fully recovering from previous shifts, particularly when combined with overtime, mandatory staffing assignments, secondary employment, family responsibilities, or other factors that reduce opportunities for sleep.

Under the 24/48 schedule, employees have two days off between assigned shifts. However, these periods may not always provide adequate recovery when overnight workload is substantial.

An employee may spend much of the first off-duty day recovering from sleep deprivation, leaving a relatively short period for family activities and personal responsibilities before returning to work.

The four-platoon schedule provides a longer recovery interval following the second shift, potentially reducing cumulative fatigue by allowing employees additional opportunities for restorative sleep.

However, the shorter 24-hour interval between the first and second shifts presents a different fatigue consideration. If an employee experiences a demanding first shift, the intervening day may not provide sufficient recovery before returning for another 24-hour duty period.

Consequently, the potential fatigue-related advantages of a four-platoon schedule should be evaluated in conjunction with actual overnight call volumes, unit workload, overtime practices, and the frequency of interrupted sleep.

Effects of Fatigue on Fire Suppression Operations

Fire suppression activities require physical strength, endurance, situational awareness, coordination, and the ability to make decisions in rapidly changing and hazardous environments.

Firefighters may be required to perform physically demanding tasks while wearing personal protective equipment and self-contained breathing apparatus, operating in elevated temperatures, limited visibility, and environments presenting significant life safety hazards.

Fatigue can impair several functions essential to safe and effective firefighting, including reaction time, decision-making, attention, coordination, and physical performance. These impairments may increase the likelihood of errors during critical operations such as interior fire attack, search and rescue, ladder operations, ventilation, apparatus positioning, and emergency vehicle operations.

Fatigue may also affect an employee's ability to recognize changing fire conditions, maintain situational awareness, communicate effectively, and respond appropriately to unexpected hazards.

Of particular concern is the relationship between fatigue and firefighter safety. Fire suppression operations frequently involve high physical exertion, cardiovascular stress, heat exposure, and psychological demands. When employees begin an emergency response already fatigued, their ability to sustain demanding physical activity may be diminished.

The cumulative effects of sleep disruption and occupational stress can also contribute to longer-term health concerns, although the relationship between individual shift schedules and specific health outcomes is influenced by many factors.

CPSM assesses that maintaining adequate opportunities for sleep and recovery is an important component of firefighter health, safety, and operational readiness.

Effects of Fatigue on EMS Operations

The effects of sleep interruption and fatigue are equally important for personnel providing emergency medical services.

EMS personnel frequently perform tasks requiring sustained attention, clinical judgment, accurate documentation, and rapid decision-making. These responsibilities may include patient assessment, medication administration, airway management, cardiac monitoring, advanced life support interventions, and patient transportation.

Unlike many fire suppression incidents, EMS responses may occur frequently throughout a 24-hour shift, including multiple calls during overnight hours. In higher-demand EMS systems, personnel may experience repeated sleep interruptions, extended hospital turnaround times, and limited opportunities for uninterrupted rest.

Fatigue can affect clinical performance in several ways. Reduced alertness may contribute to slower recognition of patient deterioration, difficulty maintaining concentration, impaired decision-making, communication errors, and reduced attention to clinical details.

Fatigue can also influence interactions with patients, family members, and coworkers. Employees experiencing significant sleep deprivation may demonstrate reduced patience, irritability, and difficulty managing emotionally demanding situations.

Emergency vehicle operations present an additional concern. EMS personnel may be required to drive ambulances after extended periods of interrupted sleep, sometimes following physically and emotionally demanding incidents. Fatigue-related reductions in attention and reaction time can increase driving risks, particularly during overnight or early morning hours.

For GCFD, the existing four-platoon schedule utilized by firefighter-paramedic float personnel and paramedic specialists provides an opportunity to evaluate employee experiences with extended recovery periods. Feedback from these personnel offer useful insight into the potential benefits and challenges of implementing a similar schedule throughout the fire suppression workforce (see workforce assessment above).

Work-Life Balance and Employee Well-Being

Work-life balance is an increasingly important consideration in fire department recruitment, retention, and workforce sustainability. Although the fire service has historically operated under extended-duty schedules, employee expectations regarding family time, personal wellness, and recovery have evolved.

The traditional 24/48 schedule provides predictable days off, but the frequency of assigned shifts can create challenges for employees with family responsibilities, particularly when their scheduled off-duty periods are interrupted by overtime or mandatory staffing assignments.

Employees may miss family activities, school events, holidays, and other important occasions because of their assigned duty schedules. While these challenges exist under virtually all public safety shift models, the frequency of duty periods can influence their overall impact.

The four-platoon schedule may improve work-life balance by providing extended periods away from work and reducing the total number of scheduled duty hours annually. Five consecutive days off may provide employees with greater flexibility to participate in family activities, travel, pursue educational opportunities, and address personal responsibilities.

Extended recovery periods may also reduce the perception that employees are continually transitioning between work and recovery, allowing more meaningful separation between professional and personal responsibilities. For employees with young families, aging parents, or other caregiving responsibilities, this additional flexibility may be particularly valuable.

Improved work-life balance may contribute to greater job satisfaction, organizational commitment, and employee retention. However, these potential benefits depend on the department's ability to implement the schedule without excessive mandatory overtime, which could undermine the intended improvements.

Importance of Mandatory Overtime and Forced Staffing

A critical consideration in evaluating both schedules is the effect of mandatory overtime, often referred to as forced staffing or mandates.

When staffing shortages occur, departments may require employees to work additional shifts to maintain minimum staffing levels. Although mandatory overtime may be necessary to preserve emergency response capabilities, frequent reliance on this practice can adversely affect employee wellness and morale. Under the 24/48 schedule, an employee required to work an additional 24-hour shift during a scheduled 48-hour break may experience a substantial reduction in recovery time.

For example, an employee completing a regularly scheduled 24-hour shift may be required to remain on duty for an additional 24 hours or return to work during the scheduled off-duty period. These practices can result in extended duty periods or shortened recovery intervals, increasing the potential for fatigue. Mandatory overtime can also create uncertainty for employees and their families, making it difficult to plan personal activities and maintain predictable time away from work.

A four-platoon schedule may provide greater opportunities for recovery between regularly scheduled duty periods, but it will not resolve mandatory overtime concerns unless the department maintains adequate staffing and relief capacity.

The benefits of transitioning to a four-platoon schedule are therefore directly related to the department's ability to staff the additional platoon and minimize reliance on forced staffing assignments. For GCFD, this consideration is particularly important because employee recruitment, retention, and workforce sustainability are among the primary reasons for evaluating a schedule change.

CPSM assesses that both the three-platoon 24/48 schedule and the proposed four-platoon schedule offer operational advantages and challenges. The existing 24/48 model provides

staffing efficiency, operational familiarity, and a comparatively lower baseline personnel requirement. These characteristics make it a financially attractive model for municipalities seeking to maintain continuous fire and EMS coverage with a smaller workforce.

However, the 24/48 schedule also requires more frequent duty periods and provides shorter recovery intervals between shifts. When combined with overnight emergency responses, overtime, mandatory staffing assignments, and the physical and psychological demands of fire and EMS operations, these conditions may contribute to cumulative fatigue, reduced employee wellness, and challenges involving work-life balance and employee retention.

The proposed four-platoon schedule offers the potential for meaningful improvements in employee recovery, work-life balance, recruitment, and retention by reducing regularly scheduled work hours and providing extended off-duty periods. These benefits may be particularly valuable for GCFD as it evaluates strategies to strengthen workforce stability and remain competitive in attracting and retaining qualified personnel.

CPSM also recognizes that a four-platoon schedule is not inherently fatigue-free. The two 24-hour shifts separated by a 24-hour off-duty period may create recovery challenges when employees experience substantial overnight emergency activity. The potential benefits of the schedule will therefore depend on actual call workload, opportunities for uninterrupted sleep, overtime requirements, and employees' ability to obtain adequate rest during their extended off-duty periods.

Of equal importance, the transition to a four-platoon schedule requires a substantial and sustained financial commitment. Establishing a fourth operational platoon, maintaining appropriate officer and technical qualifications, and providing adequate relief staffing are essential to preserving operational readiness and minimizing mandatory overtime.

CPSM further assesses that the department's existing experience with a four-platoon schedule for firefighter-paramedic float personnel and paramedic specialists represents an advantage in evaluating the proposed transition. This experience provides an opportunity to assess scheduling practices, employee feedback, operational coordination, and the effects of extended recovery periods before implementing the schedule throughout the suppression workforce. ***CPSM concludes*** from the workforce assessment CPSM provided to the operational workforce that the 24/24/120 schedule is well-liked and overwhelmingly favored by the personnel working this schedule.

Ultimately, the decision to transition from a three-platoon to a four-platoon schedule should balance the potential improvements in employee health, fatigue management, recruitment, retention, and work-life balance against the additional staffing requirements and long-term financial sustainability of the proposed model.

For GCFD, the four-platoon schedule represents a potential investment in workforce sustainability rather than simply a reduction in scheduled work hours. If appropriately staffed and financially supported, the proposed schedule may strengthen employee satisfaction, reduce the pressures associated with frequent duty periods, and improve the department's ability to recruit and retain qualified personnel while maintaining effective fire and EMS service delivery.

CPSM recommends that GCFD evaluate the proposed schedule if implemented using measurable indicators, including employee turnover, sick leave utilization, mandatory overtime, overnight incident workload, employee wellness feedback, and overall staffing reliability. These measures will help determine whether the anticipated workforce benefits are being realized and whether the schedule can be sustained without compromising operational effectiveness or creating excessive financial obligations for the city.

Applicable Shift Staffing and Shift Schedule Operational Policies

As part of the GCFD Shift Schedule Analysis, CPSM reviewed applicable departmental operational policies and City of Goose Creek personnel policies governing shift staffing, employee leave, overtime, emergency staffing, and workforce deployment. The purpose of this review was to assess how existing policies influence the department's ability to maintain authorized operational staffing, meet established minimum daily staffing requirements, and manage personnel availability within the current three-platoon, 24/48-hour shift schedule and a potential four-platoon staffing model.

Of particular importance to this assessment and as discussed earlier, is the distinction between authorized staffing, maximum available staffing, and minimum required staffing. Authorized staffing represents the number of operational positions approved and funded by the City. Maximum available staffing represents the number of qualified personnel who could be assigned to operational duty when authorized positions are filled and personnel are available. Minimum staffing represents the number of personnel, including the necessary rank and qualifications, required to maintain the department's established daily apparatus deployment and operational readiness. The difference between these staffing levels establishes the department's capacity to accommodate scheduled and unscheduled absences without requiring additional personnel assignments or overtime expenditures.

CPSM reviewed the GCFD's Shift Staffing and Coverage policy (revised June 2025), and which covers daily general staffing of fire suppression units (maximum and minimum staffing and management of additional personnel working), maximum hours worked by an employee (48 hours) and other operational expectations as it relates to leave to include:

- Annual Leave Requests Guidelines
- Unscheduled Leave/Callout Guidelines
- Holiday Leave Guidelines
- Training Leave Guidelines
- Personnel Working Additional Hours Guidelines
- Forced Work Hours Guidelines
- Temporary Acting Role Guidelines
- Fit for Duty-Modified Duty Guidelines
- Employee Support and Well-Being Guidelines
- Emergency Holdover Guidelines
- Operational Recall Guidelines

CPSM found the departmental guidelines to be comprehensive and address overall considerations for personnel, the department, and the continuum of fire and emergency medical service for the city.

CPSM also reviewed applicable provisions of the City's 2026 Employee Handbook, including policies addressing overtime and compensatory time, vacation, holidays, sick leave, military leave, bereavement, administrative leave, and family and medical leave.

Collectively, these policies establish an administrative and operational framework through which GCFD manages personnel availability and maintains daily staffing. However, their application has direct implications for the number of employees who must be authorized and assigned to each platoon to consistently maintain minimum staffing levels.

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Operational Staffing and Position Qualifications

The GCFD's Shift Staffing and Coverage policy requires personnel working additional shifts or filling vacant assignments to possess the qualifications necessary for the assigned position. Consequently, maintaining minimum daily staffing is not solely a function of having a sufficient number of employees available. The department must also maintain an appropriate distribution of company officers, driver/operators, firefighters, and personnel possessing required emergency medical qualifications.

This distinction is particularly important when evaluating maximum and minimum staffing. A platoon may have sufficient personnel to satisfy its numerical minimum staffing requirement but still experience an operational staffing deficiency when an available employee does not possess the qualifications necessary to fill a vacant position. These circumstances may require acting assignments, qualified personnel transfers, overtime backfill, or other staffing adjustments to preserve apparatus readiness.

Accordingly, the number of authorized positions assigned to each platoon must account for both the total personnel required and the distribution of operational qualifications necessary to maintain the department's deployment model. This consideration becomes increasingly important when evaluating the potential transition from three platoons to four, as authorized staffing and specialized qualifications would need to be distributed across an additional platoon while preserving minimum daily staffing requirements.

Scheduled Leave and Its Impact on Daily Staffing

The department's operational staffing policy establishes limitations on the number of employees who may be absent on approved annual leave. Under normal circumstances, two personnel may be approved for annual leave, with a third employee permitted only when an equally qualified replacement has been secured and staffing coverage can be maintained. The policy expresses a preference for maintaining staffing at least one employee above the established minimum when approving additional leave.

These provisions provide a degree of predictability in managing scheduled absences. However, they also demonstrate the importance of maintaining sufficient personnel above minimum staffing to accommodate leave without routinely relying on overtime or mandatory assignments.

The City's vacation policy, HR-040, establishes annual leave accruals for 24-hour personnel ranging from 144 to 360 hours annually, depending on years of service, with a maximum accumulated balance of 480 hours. These leave benefits represent an ongoing and predictable reduction in the number of hours each authorized employee is available for operational duty.

Holiday leave introduces additional scheduling considerations. Departmental policy generally limits holiday annual leave to one employee, regardless of rank, subject to advance approval and operational coverage. Floating holidays and other authorized leave benefits further reduce the total annual hours available from the department's authorized workforce.

While these policies establish reasonable administrative controls over scheduled absences, authorized staffing must be sufficient to absorb anticipated annual leave utilization while maintaining minimum staffing requirements. When staffing is established at or only marginally above the operational minimum, even routine leave utilization can generate recurring overtime or require additional personnel coverage.

Unscheduled Leave and Operational Staffing Variability

Unlike scheduled annual leave, sick leave, family and medical leave, military leave, bereavement leave, and other authorized absences may occur with limited advance notice or extend over multiple duty periods. Departmental policy establishes notification and reporting requirements for sick leave, while applicable City personnel policies govern eligibility, accrual, documentation, and authorized leave periods.

An important provision of the GCFD staffing policy is that certain leave categories, including sick leave, military leave, bereavement leave, and family and medical leave, do not reduce the number of annual leave requests otherwise permitted. As a result, these absences may occur concurrently with previously approved annual leave, increasing the number of personnel unavailable on a particular shift.

This creates an important distinction between planned staffing availability and actual daily staffing. Even when a platoon begins with personnel assigned above the minimum staffing requirement, concurrent absences can eliminate that staffing margin and create an immediate need for qualified replacements, typically utilizing overtime to fill these shift vacancies.

Extended absences and separation from the city (termination, resignation, retirement) can also affect staffing over multiple duty cycles. Although an employee or the FTE count remains within the department's authorized staffing complement, that position may not contribute to daily operational coverage for an extended period. Unless sufficient relief capacity exists within the workforce, the department must compensate for the absence through overtime, temporary reassignment, float personnel, or other staffing measures.

CPSM assesses that these circumstances underscore the importance of evaluating staffing requirements based on actual employee availability rather than authorized positions alone. A staffing model that assumes every authorized employee will be available for every assigned duty period will underestimate the personnel resources necessary to maintain minimum staffing throughout the year.

Overtime, Mandatory Staffing, and Emergency Recall

The department's staffing policies provide mechanisms for addressing staffing or deployment shortages through voluntary additional shifts, mandatory assignments, emergency holdovers, and personnel recall. These provisions are essential safeguards for maintaining minimum operational staffing when scheduled personnel are unavailable.

However, these mechanisms should be viewed primarily as tools for addressing temporary staffing and deployment deficiencies rather than substitutes for an adequately authorized workforce.

When the number of available personnel falls below minimum staffing, the department must secure qualified replacements. Depending on employee availability and the circumstances surrounding the vacancy, this may require employees to work beyond their regularly scheduled duty periods or return to work during scheduled off-duty time.

Within the existing 24/48-hour schedule, mandatory staffing assignments can have a particularly significant impact on employee rest and recovery. Personnel already scheduled to work a 24-hour duty period followed by 48 hours off may experience a substantial reduction in their recovery interval when required to work additional hours. Repeated mandatory assignments can contribute to fatigue, disrupted personal schedules, reduced work-life balance, and employee dissatisfaction.

The frequency of these assignments is directly related to the difference between authorized staffing and minimum staffing, the availability of qualified relief personnel, and the amount of scheduled and unscheduled leave occurring throughout the year.

A four-platoon staffing model may provide longer scheduled recovery intervals and greater flexibility for managing certain staffing assignments. However, these potential advantages depend on the number of authorized personnel assigned to each platoon, the availability of float or relief personnel, and the department's ability to maintain minimum staffing without excessive reliance on overtime or mandatory assignments. Merely increasing the number of platoons does not eliminate the need to account for employee leave, vacancies, and qualification-specific staffing requirements.

Training Assignments and Other Operational Commitments

GCFD policy also addresses personnel attendance at approved training activities and other departmental assignments that may temporarily remove employees from their normal operational responsibilities.

Training is essential to maintaining operational competency, required certifications, officer development, and specialized response capabilities. Nevertheless, employees attending training may be unavailable for normal apparatus assignments, depending on the nature, duration, and location of the training.

Departmental policy prioritizes certain advance-approved training requests while retaining the ability to cancel training when operational staffing requirements cannot otherwise be maintained.

These provisions further demonstrate that authorized operational staffing must accommodate responsibilities beyond emergency response. The department must maintain sufficient personnel to support training, professional development, and other necessary assignments without routinely reducing apparatus availability or generating additional overtime.

CPSM assesses that the GCFD's existing operational staffing and personnel policies establish a structured framework for managing employee leave, position qualifications, overtime, and emergency staffing. These policies appropriately recognize the need to preserve minimum daily staffing and ensure that personnel assigned to operational vacancies possess the qualifications necessary to perform the required duties.

However, the effectiveness of these policies is ultimately dependent on the relationship between the department's authorized operational staffing, the number of personnel assigned to each platoon, and the minimum staffing required to maintain its established apparatus deployment.

The department's authorized staffing complement must account for predictable annual leave, holidays, training, and other scheduled absences, as well as less predictable sick leave, extended medical absences, vacancies, and other personnel availability factors. When insufficient staffing capacity exists above the operational minimum, the department becomes increasingly dependent on overtime, mandatory staffing, and other temporary coverage measures to maintain service delivery.

This relationship is particularly important in evaluating the transition from a three-platoon to a four-platoon shift schedule. Under either model, the department must maintain the same established minimum daily operational staffing unless a separate decision is made to modify apparatus deployment or staffing requirements. The principal staffing difference is the number of

platoons across which personnel must be distributed and the corresponding number of authorized positions necessary to sustain continuous coverage.

A four-platoon model generally requires additional authorized personnel to maintain the same minimum daily deployment because the scheduled duty hours of individual employees are reduced. However, the additional staffing requirements should not be determined solely by multiplying minimum daily staffing by the number of platoons. The analysis must also consider the availability of float personnel, the distribution of required qualifications, anticipated leave utilization, vacancies, training commitments, and the department's historical reliance on overtime and mandatory staffing.

CPSM further assesses that the department should distinguish between the number of personnel necessary to staff its apparatus on a given day and the total number of authorized positions necessary to sustain that deployment throughout the year. This distinction is fundamental to developing a staffing model that is operationally reliable, financially sustainable, and responsive to employee wellness and workforce retention considerations.

Ultimately, the objective of either shift schedule should be to maintain consistent minimum operational staffing through an appropriately authorized and qualified workforce, while minimizing the need for recurring mandatory assignments and unplanned overtime. The staffing analysis that follows evaluates these considerations in relation to the GCFD's existing three-platoon deployment and the proposed four-platoon alternatives, including the potential use of float personnel to provide relief coverage and improve staffing flexibility.

CPSM Recommends that concurrently with implementation of a four-platoon staffing system, GCFD should revise its Shift Staffing and Coverage policy to identify the four-platoon suppression structure, define platoon-specific minimum qualifications, and establish a consistent vacancy-filling sequence for scheduled and unscheduled absences.

Callback and Relief Staffing Practices

The GCFD utilizes eight authorized Firefighter/Paramedic Float positions to supplement daily operational staffing and provide coverage for personnel absences. These employees are assigned to a four-platoon schedule, with two floats scheduled for duty each calendar day. Unlike suppression personnel assigned to the department's three-platoon, 24/48-hour schedule, float personnel rotate independently and provide staffing support to whichever suppression platoon is on duty.

The GCFD's Shift Staffing and Coverage policy, Section II, establishes the priority for assigning float personnel. Their primary responsibility is to fill vacancies among the department's Paramedic Specialists assigned to Medic 1. Once these staffing requirements are satisfied, available float personnel may be assigned to fire suppression apparatus to fill vacancies and maintain established minimum staffing levels.

This deployment model provides flexibility in managing daily operational staffing; however, the availability of two scheduled float personnel does not necessarily translate into two additional employees available for suppression staffing. When vacancies occur among the Paramedic Specialists, float personnel must first be utilized to maintain ambulance coverage, potentially reducing or eliminating the available float capacity for suppression assignments. Consequently, the department's ability to maintain minimum suppression staffing without overtime is dependent on both the number and type of vacancies occurring during a particular duty period.

Voluntary and Mandatory Staffing Assignments

The GCFD's Shift Staffing and Coverage policy, Sections VIII–IX, establishes procedures for filling operational vacancies that cannot be accommodated through scheduled personnel or available float assignments. The Battalion Chief is responsible for coordinating vacancy coverage and ensuring that personnel assigned to vacant positions possess the qualifications necessary to perform the required duties.

The department utilizes a progressive staffing process that prioritizes voluntary assignments before implementing mandatory staffing. *FireWorks*, the departments shift scheduling and records management system, is used to contact qualified personnel regarding anticipated vacancies, generally by the 15th day of the preceding month. *GroupMe* communications are subsequently utilized to solicit additional volunteers, with preference given to qualified employees who have worked fewer additional hours. A final voluntary staffing request is distributed the day before the vacancy occurs.

When a vacancy remains unfilled at 0800, the department utilizes the *FireWorks* ranking system to identify a qualified employee for mandatory assignment, generally selecting the employee with the fewest credited additional hours. Personnel assignments may be adjusted to accommodate position-specific qualifications, and equally qualified substitutes may be permitted. Employees assigned to special-duty details are excluded from mandatory selection while performing those assignments.

These procedures provide an organized method for distributing additional work assignments and maintaining minimum staffing. However, mandatory staffing creates additional scheduled work obligations for employees who would otherwise be off duty, potentially affecting rest and recovery, personal commitments, and overall work-life balance. This is particularly relevant for personnel working the existing 24/48-hour schedule, where additional assignments can substantially reduce the time available between regularly scheduled duty periods.

Mandatory Staffing Utilization and Workforce Impacts

The GCFD's internal shift schedule study identified 185 forced-hire occurrences during calendar year 2025. Detailed employee records indicate these assignments accounted for approximately 2,219.5 additional staffing hours, representing an average of approximately 12.0 hours per forced assignment.

Measure	2025
Forced-hire hours	2,219.50
Forced-hire occurrences	185

These figures demonstrate that mandatory staffing is an established component of the department's current operational coverage strategy. While mandatory assignments provide a necessary mechanism for maintaining minimum staffing when voluntary coverage is unavailable, their frequency also illustrates the limitations of the department's existing staffing relief capacity.

It is important to distinguish routine mandatory staffing assignments from emergency holdovers. The reported 2,219.5 hours represent forced staffing assignments and should not be interpreted as documented emergency holdover hours. The records provided do not separately identify emergency holdover occurrences or durations; therefore, CPSM cannot establish an average emergency holdover duration from the available information.

CPSM assesses that the GCFD's current float staffing model provides an important operational resource for maintaining daily staffing; however, its effectiveness is influenced by the competing demands of ambulance and suppression coverage. Although two Firefighter/Paramedic Floats are scheduled each day, their primary assignment to Paramedic Specialist vacancies limits the number consistently available to fill suppression vacancies. Accordingly, the department should not assume that both scheduled float personnel will be available to offset suppression staffing shortages when evaluating authorized staffing requirements.

The department's reliance on 185 forced-hire occurrences totaling 2,219.5 hours in 2025 further demonstrates that existing staffing resources do not consistently accommodate all operational vacancies through regularly scheduled personnel, float assignments, and voluntary overtime. While these figures do not independently establish that authorized staffing is inadequate, they indicate a recurring need for additional coverage beyond the department's normal daily staffing assignments.

As GCFD evaluates a transition from its existing three-platoon suppression schedule to a four-platoon model, consideration must be given to the number of authorized positions required to maintain minimum staffing, the continued role and deployment priorities of float personnel, and the extent to which additional staffing capacity could reduce reliance on mandatory assignments.

CPSM further assesses that a four-platoon schedule may improve employee recovery periods, reduce the frequency of regularly scheduled duty tours, and support recruitment and retention objectives. However, these benefits could be diminished if insufficient relief staffing results in continued or increased mandatory assignments during scheduled off-duty periods.

CPSM recommends that the department evaluate float staffing availability, Paramedic Specialist vacancy coverage, suppression staffing deficiencies, voluntary overtime, and mandatory staffing utilization as separate components of its overall staffing analysis. This approach will provide a more accurate assessment of the authorized personnel necessary to sustain minimum daily staffing under either shift schedule and help determine whether the proposed four-platoon model can achieve its intended operational and workforce benefits without creating an unsustainable reliance on overtime or mandatory staffing.

The policies governing maximum consecutive work hours, mandatory staffing, and emergency recall are important components of the department's overall staffing management and employee fatigue mitigation practices. These provisions provide the operational flexibility necessary to maintain minimum daily staffing, address unanticipated vacancies, and ensure adequate personnel availability during significant emergency incidents. However, their application must be balanced against the physical and mental demands associated with fire suppression and emergency medical services.

Fire and EMS personnel routinely perform physically demanding and cognitively intensive tasks under unpredictable conditions, often involving interrupted sleep, extended emergency incidents, and periods of heightened physical and psychological stress. When employees are required to work additional hours beyond their regularly scheduled shifts, cumulative fatigue and reduced recovery time can affect alertness, decision-making, physical performance, and overall employee wellness.

Working beyond 48 consecutive hours introduces an additional and potentially significant fatigue concern, particularly for personnel assigned to emergency medical services units. Unlike some fire suppression assignments that may experience intermittent periods of lower emergency activity, ambulance personnel can encounter sustained call volumes, repeated nighttime

responses, extended patient care responsibilities, hospital transport and turnaround times, and limited opportunities for uninterrupted sleep. These operational demands can compound fatigue over successive duty periods, particularly when personnel are unable to obtain adequate restorative sleep between calls. As consecutive duty hours extend beyond 48 hours, the potential for cumulative sleep deprivation, reduced cognitive performance, slower reaction times, impaired judgment, and diminished situational awareness becomes an increasingly important operational safety consideration.

These concerns are especially relevant for paramedics and other EMS personnel who must continuously assess patients, make time-sensitive clinical decisions, administer medications, perform complex medical interventions, and safely operate emergency vehicles. Fatigue-related performance degradation can affect not only employee health and safety but also patient care, clinical decision-making, driving performance, and overall service quality. While the actual degree of fatigue depends on incident workload, sleep opportunities, and individual circumstances, extended consecutive duty periods can increase operational risk when adequate recovery is not achieved.

These considerations are particularly relevant under the existing three-platoon, 24/48-hour schedule, where mandatory staffing assignments may significantly reduce the 48-hour recovery period between regularly scheduled duty tours. Although a four-platoon schedule provides longer scheduled intervals between duty periods, the intended benefits of increased recovery time and improved work-life balance may be diminished if employees continue to experience frequent mandatory assignments or extended consecutive work periods.

CPSM assesses that consecutive work periods exceeding 48 hours warrant particular scrutiny, especially for personnel assigned to busy EMS units where nighttime call activity and sustained patient care responsibilities may substantially limit restorative sleep. While the department's existing policy provides supervisory approval requirements for extended work periods, approval alone does not eliminate the physiological effects of cumulative fatigue. The department should consider actual hours worked, incident workload, nighttime sleep interruptions, and opportunities for recovery when determining whether an employee should continue working beyond 48 consecutive hours.

Accordingly, ***CPSM recommends*** that GCFD continue evaluating consecutive work-hour limitations beyond 48 hours, mandatory staffing frequency, emergency holdover utilization, and employee recovery periods as part of its overall staffing strategy. Particular consideration should be given to limiting extended consecutive assignments on EMS units and ensuring that fatigue-management practices reflect the different workload characteristics of fire suppression and EMS operations. These considerations should be incorporated into the evaluation and potential implementation of a four-platoon schedule to support operational readiness, employee health and safety, patient care, recruitment, retention, and long-term workforce sustainability.

Vacancy Management Practices

GCFD vacancies arise from both planned and unplanned causes. Planned absences include approved annual leave, scheduled training, and other leave that can be incorporated into the staffing roster in advance. Unplanned absences include sick leave, intermittent or extended FMLA, workers' compensation/injury leave, and separations that create a position vacancy until recruitment or promotion is completed.

Internally, the department identifies employee turnover, FMLA utilization, paramedic shortages in the Lowcountry, military leave, and organizational growth as principal workforce-availability pressures. The department also identifies multiple extended-duration FMLA and light-duty

assignments during the study period. These absences have a disproportionate staffing impact because they remove an employee from the normal rotation for multiple tours and can create recurring overtime in the same position.

The next table outlines leave usage by GCFD personnel in CY 2025.

Table 6: GCFD Recorded Leave Hours: CY 2025

Recorded Category	2025 Leave Hours-Completed
Annual Leave	5695.5
Sick Leave	6,605
FMLA	2,592
Floating Holiday	1,536
Training Leave	964.5
Bereavement Leave	264
Military Leave	72
FD Admin	153
Jury Duty	33
Wellness Leave	66
Light Duty	7,187.5
Total recorded completed hours	**25,168.5**

Table Analysis

Top Leave Usage

- Light Duty: 7,187.5
- Sick Leave: 6,605
- Annual Leave: 5695.5
- FMLA: 2,592

These categories make up 22,080 hours or 88% of all GCFD leave.

The GCFD allows Buddy Shifts (shift trades), which are typically utilized when no annual leave is available.

Shift trades are a common staffing practice in career fire departments, allowing qualified employees to voluntarily exchange scheduled duty periods to accommodate personal obligations, family commitments, educational opportunities, and other scheduling needs. When properly administered, shift trades provide employees with additional scheduling flexibility without requiring the department to incur overtime expenses or compromise established minimum staffing requirements. This flexibility can be particularly beneficial in a 24-hour shift environment and may contribute positively to employee morale, work-life balance, and retention.

The Fair Labor Standards Act (FLSA), under 29 U.S.C. § 207(p)(3) and 29 CFR § 553.31, provides specific provisions allowing employees of public agencies engaged in fire protection or law enforcement activities to voluntarily substitute for one another during scheduled work hours. Under these provisions, qualifying shift exchanges are not treated as additional hours worked for overtime purposes when the exchange is voluntary, occurs between employees performing work in the same capacity, and is approved by the employer. The employee originally

scheduled to work is credited with the exchanged hours for FLSA purposes, rather than the employee actually performing the substituted duty.[6]

For the Goose Creek Fire Department, shift trades can provide an important scheduling benefit under both the existing three-platoon, 24/48-hour schedule and a potential four-platoon schedule. A four-platoon system may create additional opportunities for employees to exchange duty periods while preserving longer scheduled recovery intervals. Nevertheless, shift trades should be managed to avoid excessive consecutive work hours, cumulative fatigue, or staffing arrangements that adversely affect operational readiness.

CPSM assesses that GCFD should continue permitting voluntary shift trades as an employee scheduling benefit while maintaining clear policies governing supervisory approval, equivalent qualifications, maximum consecutive work hours, and accurate timekeeping. Shift trades should remain voluntary and should not be used as a substitute for maintaining sufficient authorized staffing or as a mechanism to avoid overtime obligations for employer-directed assignments. When administered consistent with FLSA requirements, shift trades provide a valuable workforce flexibility tool without necessarily increasing the department's overtime liability.

Workers' Compensation Impacts

Additionally, on-the-job injuries and occupational illnesses represent an additional consideration in determining the authorized staffing necessary to maintain minimum daily operational coverage. Firefighting and emergency medical services are physically demanding occupations that expose personnel to a variety of occupational hazards, including musculoskeletal injuries, lifting and patient-handling injuries, slips and falls, vehicle accidents, and injuries sustained during emergency operations and training. When an employee experiences a work-related injury that prevents them from performing their regular duties, the resulting absence creates a temporary operational vacancy that must be addressed to maintain established apparatus staffing levels.

Unlike scheduled annual leave, workers' compensation-related absences are generally unplanned and can extend for several weeks or months, depending on the severity of the injury, treatment requirements, and recovery period. Although an injured employee remains part of the department's authorized staffing complement, that individual may be unavailable to perform operational duties until medically cleared to return. In some circumstances, employees may return on restricted or light-duty assignments but remain unable to perform essential fire suppression or EMS functions. Consequently, these employees may be available for administrative or support assignments but cannot necessarily be counted toward minimum operational staffing.

For the Goose Creek Fire Department (GCFD), these absences can create additional demands on available float personnel, voluntary overtime, mandatory staffing assignments, and other vacancy coverage mechanisms. Extended workers' compensation absences can be particularly challenging when the affected employee holds a specialized qualification, such as company officer, driver/operator, or paramedic, requiring the department to secure an appropriately qualified replacement.

CPSM assesses that workers' compensation-related absences should be incorporated into the department's overall staffing relief factor when evaluating the number of authorized positions necessary to maintain minimum daily staffing. While the timing and duration of individual injuries cannot be predicted, historical injury-related lost-duty hours can be analyzed to establish a reasonable planning allowance for occupational absences. These absences should be

6. 29 U.S.C § 207(p)(3); 29 CFR § 553.31

evaluated separately from annual leave, sick leave, and other personnel availability factors to avoid understating staffing needs or double-counting lost work hours.

This consideration is particularly important when comparing the existing three-platoon schedule with a proposed four-platoon model. Regardless of the shift schedule selected, the department must maintain sufficient qualified personnel to fill operational vacancies resulting from occupational injuries. A shift schedule change does not eliminate workers' compensation-related staffing requirements, and failure to account for these absences can result in increased overtime expenditures, recurring mandatory assignments, and additional workload on available personnel.

CPSM further assesses that maintaining adequate staffing relief capacity, implementing effective injury prevention and employee wellness programs, and facilitating appropriate return-to-duty opportunities can help reduce the operational and financial impacts of occupational injuries. These measures should be considered integral components of the department's long-term workforce planning, staffing sustainability, and employee health and safety strategies.

CPSM Recommends: GCFD should maintain a monthly vacancy dashboard separating budgeted vacancies, long-term injury/light-duty absences, FMLA, military leave, scheduled leave, and unscheduled sick leave. The dashboard should show the number of 24-hour positions lost, the qualification affected, and the overtime or forced-hire hours generated by each category.

Overtime Analysis

GCFD uses extra work for fire and EMS coverage, training assignments, peak-time Medic 2 staffing (staffed when personnel are available), and other authorized duties. The next table outlines recorded extra-work assignments; it does not attribute each assignment to the underlying absence or determine whether every hour received an FLSA overtime premium.

Table 7: Extra Work Hours by Assignment

Duty or Assignment Category	2025 Hours
Fire Apparatus Coverage	18,998.00
Medic 1 Coverage	1,583.50
Medic 2 Prime-Time Voluntary Assignment	3,319.50
Battalion 1 and Callback Chief	3,469.50
Fire and EMS Training	151.75
Other Duties and Support	269.25
Total Overtime Hours -2,291.50 Forced Hours included in OT count herein.	**27,791.5 25,572 OT Hours**

Source: extra hours and forced 2025.pdf provided by client.
Sum of employee duty subtotals.

Table Analysis

- The greatest use of overtime is for fire suppression coverge-74%.
- Medic 2 coverage represents 13% of overtime use.
- Shift Battalion Chief coverage represents 14% of overtime use.
- Medic 1 utilized 6% of overtime use. This aligns with the policy of utilizing the Float FF/PM positions to backfill Medic 1 vacancies first before their use in fire suppression coverage.

As a note here, overtime assignment codes identify where extra work was assigned, rather than the absence that caused it. A cause-specific analysis of annual leave, sick leave, FMLA, injury, or separation requires a link between each vacancy, replacement assignment, and payroll record. ***Separation or vacancy hours are not included here but totaled 26,280 hours in 2025.***

CPSM recommends that the Goose Creek Fire Department (GCFD), in coordination with the City's Human Resources and Finance Departments, establish a comprehensive staffing vacancy and overtime tracking process that identifies the underlying reason for each operational staffing vacancy and the method used to fill that vacancy. While existing overtime assignment codes identify where additional personnel were assigned, they do not necessarily identify the circumstances that created the staffing deficiency.

The department should develop a standardized system that links each operational vacancy to its underlying cause, including annual leave, sick leave, FMLA, workers' compensation injuries, training, vacancies resulting from employee separations, and other authorized absences. These records should be connected to the corresponding replacement assignment, employee qualifications, hours worked, and payroll expenditures. The system should also distinguish between voluntary overtime, mandatory staffing, emergency holdovers, and other staffing adjustments.

CPSM further recommends that GCFD utilize this information to conduct an annual analysis of staffing vacancies, overtime utilization, and relief staffing requirements. This analysis should identify the primary drivers of overtime expenditures, the frequency and duration of staffing deficiencies, and the effectiveness of float personnel in maintaining minimum daily staffing.

As the department evaluates transitioning from a three-platoon to a four-platoon shift schedule, this information will be particularly valuable in determining the appropriate number of authorized operational positions, assessing the effectiveness of proposed float staffing arrangements, and projecting the financial implications of alternative staffing models.

Relief Staffing Factor

Effective staffing is fundamental to a fire department's ability to meet its mission of protecting life, property, and the environment. A staffing factor analysis examines the various components that influence how personnel are allocated, scheduled, and utilized to ensure adequate emergency response and operational readiness when vacancies occur. This analysis considers not only the total number of authorized positions but also the impact of factors such as leave usage, training requirements, vacancies, injuries, and administrative assignments.

By evaluating these influences, the department can determine the true number of personnel needed for daily operations, identify gaps that may affect service delivery, and make informed decisions regarding future staffing needs. Ultimately, this assessment supports strategic planning, fiscal efficiency, and the department's capacity to maintain safe and effective response capabilities.

It is common practice for fire departments to staff operational shifts with extra personnel to account for both scheduled and unscheduled absences. In some organizations, this approach is implemented broadly, such as assigning one additional firefighter per engine per shift. These additional staff members help fill short- and long-term vacancies, effectively minimizing the need for overtime. In cases where an organization does not staff with additional personnel to cover vacancies (referred to as constant staffing), overtime or part-time employees are utilized to fill-in and cover vacancies.

The GCFD operates under a dedicated relief staffing model using two FF/PM float positions to cover vacancies, as well as overtime to achieve minimum staffing across one Medic Unit, one Battalion Chief-Shift Commander, and five suppression units.

This staffing factor analysis utilizes GCFD information provided to CPSM. The study period is FY 2025.

During the budget year studied, the GCFD operational deployment model included a normal daily maximum staffing of twenty-two positions. The breakdown includes:

- Command Officer : 1
- Medic Unit: 2
- Float FF/PM Positions: 2
- Fire Suppression Unit Staff: 17
  - ✓ Fire suppression staffing minimum is 16 availing one additional position to backfill vacant positions.

During the analysis year for this exercise, the GCFD staffed in two different ways.16 employees (8-EMS and 8-Float positions) worked a four-platoon system that created a 42-hour workweek and 2,184 hours/year. 54 employees (fire suppression and command employees) worked a 56-hour workweek and 2,912 hours/year.

For the FY 25 fiscal period, all staff worked 25,572 hours of overtime, with the predominate total hours allocated to fill vacant shifts created by scheduled and unscheduled leave.

The use of a staffing factor allows any department in a municipality that requires a level of minimum staffing to better plan the fiscal impacts of maintaining minimum staffing through full-time employees or overtime funding to fill minimum staff positions. In the case of the FHFD, there is also budgeted funds for Paid-On-Call staffing. A staffing factor exercise is a budget tool in as much as it is an operational tool. The staffing formula CPSM utilizes comes from the book *Tools for Decision Making, A Practical Guide for Local Governments*.[7] The staffing factor formula can be utilized for any government function that requires minimum staffing on a regular basis.

The staffing factor model is outlined next.

Staffing factor calculation: **staffing factor** $= \frac{\textbf{hours per year per employee}}{E}$

$$E = P - A$$

E = the number of effective hours per employee per year or hours scheduled.
P hours minus A hours
P = the number of paid hours per employee per year.
A = the average number of hours of paid absences per year per employee.

To determine the number of additional personnel needed to cover vacated positions due to leave or because of a vacancy through separation, an operational staffing factor should be established. The following calculations show how this would apply to GCFD.

7. Ammons, D., Tools for Decision Making, 2nd edition, (Washington, DC: CQ Press, 2009).

The FHFD utilized 54 full-time positions assigned to fire suppression (77% of the workforce) and 16 full-time positions assigned to EMS and Float positions (23% of the workforce) as outlined above.

The total number of paid hours each fire suppression employee was scheduled to work in FY 2025 was 2,912. Aggregately all fire suppression staff worked 157,248 hours.

The total number of paid hours each EMS and Float employee was scheduled to work in FY 2025 was 2,184. Aggregately all EMS and Float staff worked 34,944 hours.

During FY 25, all 70 operational personnel aggregately utilized 25,168.5 (25,169 rounded) hours of leave (includes all leave types authorized by the GCFD and the city). There were also an estimated 10,000 hours of vacant hours (from separated employees). The total leave plus vacant hours that required staffing backfill was 35,169 hours.

Leave Distribution

- Fire Suppression: 77% of the workforce.
  77% of aggregate leave and vacancy hours = 27,080.
- EMS Specialists and Float Staff: 23% of the workforce.
  23% of aggregate leave and vacancy hours = 8,089.

Fire Suppression Staffing Factor with Vacancy Hours

Utilizing the staffing factor formula above for fire suppression staffing:

- *P* = 2,912
- *A* = 501 (average of 27,080 (77% of total leave and vacancy hours/54)
- *P* – A = 2,411
- *E* = 2,411

Staffing Factor with Vacancy Hours $= \frac{2{,}912}{2{,}411}$ **= 1.21**

Therefore, and on average, it would take one full-time and .21 of a full-time employee to fill each operational position per 24-hour shift, or aggregately 3.36 (.21 x 16) additional full-time equivalent employees per 24-hour shift or budgeted overtime to manage the leave and financial aspects of minimum staffing of 16 staff per shift.

Fire Suppression Staffing Factor without Vacancy Hours

- *P* = 2,912
- *A* = 359 (average of 19,380 (77% of Leave)/54)
- *P* – A = 2,553
- *E* = 2,553

Staffing Factor without Vacancy Hours $= \frac{2{,}912}{2{,}553}$ **= 1.14**

Therefore, and on average, it would take one full-time and .14 of a full-time employee to fill each operational position per 24-hour shift, or aggregately 2.24 (.14 x 16) additional full-time equivalent employees or budgeted overtime per 24-hour shift to manage the leave and financial aspects of minimum staffing of 16 staff per shift.

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EMS Specialist-Float FF/PM Staffing Factor with Vacancy Hours

Utilizing the staffing factor formula above for EMS Specialist-FF/PM Float Positions staffing:

- *P* = 2,184
- *A* = 506 (average of 8,089 (23% of leave and vacancy hours)/16)
- *P* – A = 1,678
- *E* = 1,678

Staffing Factor with Vacancy Hours $= \frac{2{,}184}{1{,}678}$ **= 1.30**

Therefore, and on average, it would take one full-time and .30 of a full-time employee to fill each operational position per 24-hour shift, or aggregately 1.2 (.30 x 4) additional full-time equivalent employees per 24-hour shift or budgeted overtime to manage the leave and financial aspects of minimum staffing of 4 staff per shift.

EMS Specialist-Float FF/PM Staffing Factor with Vacancy Hours

Utilizing the staffing factor formula above for fire suppression staffing:

- *P* = 2,184
- *A* = 362 (average of 5,789(23% of leave hours)/16)
- *P* – A = 1,822
- *E* = 1,822

Staffing Factor with Vacancy Hours $= \frac{2{,}184}{1{,}822}$ **= 1.20**

Therefore, and on average, it would take one full-time and .20 of a full-time employee to fill each operational position per 24-hour shift, or aggregately 0.8 (.20 x 4) additional full-time equivalent employees per 24-hour shift or budgeted overtime to manage the leave and financial aspects of minimum staffing of 4 staff per shift (2 transport/2 float).

- Aggregate staffing factor with vacancy hours (Fire Suppression and EMS Transport): 2.51.
- Aggregate staffing factor – leave only (Fire Suppression and EMS Transport): 2.34.

If the City and GCFD seeks to reduce staffing overtime, CPSM assesses the GCFD does not have sufficient personnel to cover scheduled and unscheduled leave, vacancies created by separation from the department, and other time away from scheduled work (e.g. training) and maintain a staffing level of 18-per day (16 fire suppression and 2 EMS transport) without the use of overtime. Once vacancy hours are reduced to an optimum level of 1-3 positions/year, covering shifts will be more manageable as evidenced in the difference when balancing float positions and overtime when considering only leave hours.

Incorporating a staffing factor into the fire department's budget process provides a more accurate and sustainable approach to managing personnel costs. A staffing factor accounts for predictable and unpredictable absences such as vacation, sick leave, training, and other forms of leave using historical data, ensuring that sufficient personnel are available to meet minimum staffing requirements. By budgeting for these known variables in advance, the department can better control costs, maintain operational readiness, and avoid staffing shortages that impact existing personnel.

CPSM recommends the GCFD utilize the staffing factor formula annually to more accurately budget for overtime to fill historic shift vacancies caused by scheduled and unscheduled leave and vacancies created by separation from the department.

Section 7(k) of the Fair Labor Standards Act, codified at 29 U.S.C. § 207(k), permits public agencies to calculate overtime for qualifying fire protection personnel over an established work period of 7 to 28 consecutive days. It is a partial exception to the ordinary 40-hour weekly overtime rule, not a complete exemption from overtime pay. Under 29 C.F.R. § 553.230, the fire protection thresholds are 106 hours worked in 14 days, and 212 hours worked in 28 days. The threshold depends on the work period the City has actually established.[8]

Under Section 7(k) of the FLSA (29 U.S.C. § 207(k)), public agencies employing personnel engaged in qualifying fire protection activities may establish work periods ranging from 7 to 28 consecutive days rather than using the traditional 40-hour, seven-day overtime standard. For employees qualifying under this exemption, overtime compensation is generally required when hours worked exceed the applicable statutory threshold within the established work period. For example, the maximum non-overtime thresholds are 106 hours during a 14-day work period, 212 hours during a 28-day work period, and 159 hours during a 21-day work period. These thresholds are established under 29 CFR § 553.230.[9]

Conversely, a four-platoon schedule averaging 42 hours per week, or approximately 2,184 hours annually, generally produces fewer regularly scheduled hours and may substantially reduce or eliminate overtime generated solely by the normal shift rotation. However, overtime obligations may still arise from additional shifts, mandatory staffing, emergency holdovers, training, and other compensable work activities. The actual financial impact depends on the established FLSA work period, employee compensation arrangements, applicable labor agreements, and departmental overtime practices.

It is also important to recognize that FLSA overtime calculations are based on qualifying hours actually worked during the designated work period, rather than simply the number of hours for which an employee receives compensation. Paid leave, including vacation and sick leave, generally is not required to count as hours worked for federal FLSA overtime calculations, although City policies or employment agreements may establish more generous provisions.

Considerations

The GCFD's proposed transition from a three-platoon, 24/48-hour shift schedule to a four-platoon schedule presents several important considerations under the Fair Labor Standards Act (FLSA). Although the primary objectives of implementing a fourth platoon may include improving employee rest and recovery, reducing fatigue, enhancing recruitment and retention, and establishing a more sustainable operational workforce, the transition also affects scheduled work hours, overtime eligibility, payroll administration, and personnel expenditures.

Under the existing three-platoon schedule, suppression personnel average approximately 56 scheduled hours per week, or 2,912 hours annually. A four-platoon schedule generally reduces the average scheduled workweek to approximately 42 hours, or 2,184 hours annually, while maintaining continuous 24-hour operational coverage. This represents a 25% reduction in regularly scheduled hours per employee, requiring the department to distribute its operational staffing requirements across four platoons rather than three.

8. U.S. Department of Labor
9. Ibid.

Importantly, implementing a fourth platoon does not automatically change the department's obligations under the FLSA. Rather, it changes how scheduled hours are distributed and may significantly affect the amount of overtime generated by the normal shift rotation.

Under the existing 24/48-hour schedule, employees generally work approximately 112 hours during a 14-day period, resulting in 6 hours of regularly scheduled FLSA overtime when a 14-day work period is utilized. Under a four-platoon schedule averaging 42 hours weekly, employees generally work approximately 84 hours over 14 days and 168 hours over 28 days, although actual hours within a particular FLSA work period will depend on the shift rotation. Each four-platoon work period, however, is below the FLSA overtime standard for the work periods discussed.

Consequently, a four-platoon schedule can substantially reduce overtime generated solely by regularly scheduled duty hours. However, overtime may still result from voluntary additional shifts, mandatory assignments, emergency holdovers, training, and other compensable work activities.

The department must also recognize that overtime is determined by hours worked within each established FLSA work period, not by averaging hours over an entire year. Therefore, a four-platoon schedule averaging 42 hours per week does not guarantee that every individual work period will remain below the applicable overtime threshold.

Focused Considerations

- The City should verify its formally established Section 7(k) work period and determine whether that work period will remain appropriate under the new schedule. The FLSA work period is distinct from the payroll period and does not automatically change when employees transition to a different platoon rotation. A change in work period must be prospective, properly documented, and administered consistently.[10]
- Under the existing 24/48-hour schedule, regularly scheduled hours may exceed the applicable FLSA threshold. Under a four-platoon model, this overtime may be substantially reduced. However, the department will continue to incur additional staffing costs associated with annual leave, sick leave, workers' compensation absences, training, vacancies, and emergency incidents. These costs should be evaluated separately from overtime generated by the normal shift schedule.
- Transitioning from a 56-hour to a 42-hour average workweek requires careful consideration of how existing employee compensation will be maintained or adjusted. If the City maintains an employee's annual salary while reducing scheduled hours, the effective hourly compensation rate increases. This may affect the regular rate used to calculate FLSA overtime and the cost of additional staffing assignments. The City should also review applicable incentive pay, longevity compensation, specialty pay, and other remuneration that may be included in the regular-rate calculation.
- The City and GCFD should review how annual leave, sick leave, holidays, and other benefits will be administered under the four-platoon schedule. Because employees will work fewer scheduled hours annually, maintaining existing leave accruals without adjustment could increase the proportion of scheduled work hours unavailable for operational coverage. Any proposed changes must comply with applicable City policies and legal requirements.
- Voluntary shift trades between similarly qualified employees may qualify for special treatment under 29 U.S.C. § 207(p)(3), allowing approved substitutions without automatically creating additional FLSA overtime obligations. The department should continue to distinguish

10. U.S. Department of Labor

qualifying voluntary exchanges from employer-directed assignments and maintain appropriate records of all additional work.

Financial Implications of the Fourth Platoon

One of the most important considerations is that the reduction in scheduled FLSA overtime should not be viewed independently from the additional personnel required to implement the fourth platoon.

Although the four-platoon model may reduce the number of overtime hours generated by the regular shift rotation, maintaining the same number of continuously staffed operational positions requires additional authorized employees. These positions introduce salary, health insurance, retirement, workers' compensation, training, equipment, and other employment-related costs.

Conversely, additional staffing capacity may reduce the department's reliance on mandatory assignments and certain types of vacancy-related overtime, depending on the relief staffing model selected.

CPSM assesses that the financial analysis should distinguish between three separate components: the cost of regularly scheduled hours, the cost of additional authorized positions required for the fourth platoon, and the anticipated cost of overtime necessary to maintain minimum staffing. These components should be evaluated together to determine the actual net financial impact of transitioning to a four-platoon schedule.

CPSM recommends that the City, in coordination with the GCFD, Human Resources, Finance, and appropriate labor and employment counsel, conduct a comprehensive FLSA and compensation review before implementing a four-platoon operational shift schedule.

This review should verify the City's established Section 7(k) work period, confirm the FLSA classification of suppression and EMS positions, evaluate changes in scheduled overtime obligations, and determine how the proposed schedule will affect annual salaries, regular hourly rates, leave accruals, and additional-duty compensation.

CPSM concludes that implementing a fourth platoon should be approached as both an operational staffing decision and a compensation and workforce management decision. The objective should be to establish a schedule that complies with federal wage-and-hour requirements, maintains minimum operational staffing, provides predictable personnel expenditures, and achieves the intended improvements in employee rest, recovery, recruitment, retention, and long-term workforce sustainability.

Staffing Impacts Associated with the Implementation of a 4th Platoon

The supplied project costing identifies two principal methods for creating the fourth platoon. One method uses an external battalion chief hire. The other uses an internal battalion chief promotion and continues the promotional chain through captain and lieutenant, with firefighter hiring used to backfill the vacancies created by promotion. In both approaches, five engineer promotions and five lieutenant-level staffing additions are required for the fourth platoon. The next table outlines the additional staffing for the fourth platoon.

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Table 8: Fourth Platoon Staffing Structure

Staffing Element	Current Operational Structure	Four-Platoon Planning Structure	Net/Planning Change
Battalion Chief-Shift Commander	3	4	**+1**
Captains	5	5	Neutral
Lieutenants	10	15	**+5**
Engineers	15	20	**+5**
Firefighters assigned to companies	21	28	**+7**
FF/PM floats	8	8	Neutral
Paramedic specialists	8	8	Neutral
Totals	**70**	**88**	**+18**

The costing in the next section contemplates the potential for new hires, later hires from other departments, and the potential for an external Battalion Chief hire. Additionally, there are 5 potential Lieutenant promotions and 5 potential Engineer hires. Therefore, costing further contemplates internal promotions.

The staffing increase also produces non-salary costs. Additional employees require benefits, uniforms, structural firefighting PPE, station wear, radios, portable accountability equipment, training, medical evaluations, workers' compensation exposure, and other recurring personnel-support costs. The supplied costing assumptions use a 58 percent benefit factor that includes health and retirement, FICA, workers' compensation, and additional benefits offered by the city.

Minimum Staffing Requirements

The maximum staffing for each of the four platoons remains the same-22 positions per shift broken down as:

- Battalion Chief: 1
- Fire Suppression: 17
- EMS Transport: 2
- FF/PM Float: 2
  - ✓ Minimum fire suppression staffing can be 16. Total minimum staffing therefore is 21/shift.

Overtime Implications

The transition from a three-platoon to a four-platoon operational schedule will affect the GCFD overtime requirements in two distinct ways. First, reducing regularly scheduled annual work hours from 2,912 to approximately 2,184 hours per employee may substantially reduce overtime generated under the Fair Labor Standards Act (FLSA), Section 207(k). Second, the addition of a fourth platoon will require the department to accommodate scheduled and unscheduled

employee absences across a larger number of assigned operational positions, potentially increasing the demand for vacancy-related overtime and staffing relief.

While the fourth platoon will increase the department's authorized operational workforce, the number of personnel available to fill vacancies will remain dependent on the staffing relief factor, employee qualifications, and the availability of float personnel. Unless the department increases its relief staffing capacity proportionately, additional operational positions may generate greater demand for overtime backfill associated with annual leave, sick leave, workers' compensation absences, training, and other personnel vacancies.

To illustrate the potential impact, CPSM developed a mathematical planning scenario using the department's 2025 overtime assignment data. During 2025, fire suppression and Battalion 1/callback assignments accounted for approximately 22,468 hours of additional staffing coverage. Adding a fourth equivalent suppression platoon represents a 33.3% increase in the number of platoons. Applying this proportional increase to the identified coverage hours, while holding leave exposure and deployment requirements constant, produces an estimated 7,489 additional coverage hours, resulting in approximately 29,957 annual coverage hours for fire suppression.

This calculation is intended to demonstrate the potential sensitivity of staffing coverage requirements to an expanded platoon structure. It should not be interpreted as a projection that GCFD's actual overtime expenditures will increase by 33.3%. Actual overtime requirements will depend on the amount of available staffing relief, employee leave utilization, position qualifications, and the department's ability to fill vacancies without overtime.

Additionally, this scenario applies only to selected suppression and command coverage assignments. It does not proportionately increase overtime associated with Medic 2, training, administrative and support functions, or Medic 1 assignments already operating under a four-platoon schedule. The calculation also does not separately account for emergency recalls, changes in operational workload, or potential improvements in staffing efficiency.

CPSM assesses that the financial impact of implementing a fourth platoon must consider both the potential reduction in regularly scheduled FLSA overtime and the continuing need for operational vacancy coverage. Although the proposed schedule may reduce overtime generated by regularly scheduled work hours, it will not eliminate overtime associated with employee absences, vacancies, or emergency operational requirements.

Accordingly, ***CPSM recommends*** that GCFD evaluate its historical overtime utilization by assignment type and underlying vacancy cause, apply schedule-specific staffing relief factors, and determine whether the existing float staffing complement is sufficient to support the expanded platoon structure. This analysis will provide a more reliable basis for projecting overtime expenditures and determining the authorized staffing necessary to maintain minimum daily deployment under the proposed four-platoon schedule.

The objective should be to ensure that the additional personnel investment associated with a fourth platoon is supported by sufficient staffing relief capacity to minimize recurring mandatory assignments, control overtime expenditures, and preserve the intended benefits of improved employee rest, recovery, and workforce sustainability.

For budgeting, ***CPSM recommends*** separating overtime into at least four categories: (1) minimum-staffing backfill, (2) long-term vacancy/FMLA/injury backfill, (3) discretionary or planned extra-duty/training assignments, and (4) peak-demand EMS staffing such as Medic 2. This separation will allow the City to determine whether post-implementation overtime changes

are caused by the four-platoon schedule, by workforce availability, or by expanded service delivery.

CPSM analytical qualification: The 33.3% scenario assumes that the identified coverage hours increase proportionately with the number of suppression platoons. Because the department's daily apparatus deployment remains unchanged and individual scheduled hours decline under a four-platoon model, this assumption should be treated as a sensitivity test rather than an expected outcome. A more precise overtime forecast would calculate annual vacancy hours using the actual number of authorized employees, schedule-specific leave utilization, and available qualified relief coverage under each staffing alternative.

Table 9: Overtime Implications by Driver

Overtime Driver	Expected 4th Platoon Effect	Reason
Built-in schedule/FLSA overtime	Decrease	Regular scheduled hours decline from ~56 to ~42 per week.
Routine leave backfill	Increase	More line employees generate more aggregate leave exposure unless relief capacity grows.
Long-term FMLA/injury/vacancy backfill	Increase	Schedule change does not eliminate extended absences; retention improvements could reduce vacancy pressure.
Forced hiring	Potential decrease if staffing stabilizes	A fully staffed fourth platoon and improved retention may reduce mandatory coverage, but only if relief capacity is adequate.
Peak-time Medic 2 / extra duty	Largely independent	This is an additional service deployment rather than baseline suppression coverage.

CPSM Recommends that the GCFD should not activate the fourth platoon schedule until all four platoons can meet the established daily minimum staffing model with the required rank and qualification mix and without relying on routine overtime to fill permanent fourth-platoon positions.

End of Section

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Section 3. Cost analysis: Transition to a 4-Platoon Fire Staffing Schedule

This section presents a comparative cost analysis of staffing alternatives for the Goose Creek Fire Department (GCFD), with particular emphasis on the financial implications of transitioning from the existing three-platoon, 24-hour-on/48-hour-off (24/48) schedule to a four-platoon staffing model. The analysis evaluates the personnel costs associated with establishing a fourth operational platoon, as well as an alternative three-platoon work schedule that would modify the existing 24/48 rotation without requiring the same level of additional staffing.

The primary cost consideration associated with implementing a four-platoon schedule is the addition of 18 operational personnel necessary to establish and maintain the fourth platoon at the department's current deployment and minimum staffing levels. The analysis considers the recurring personnel expenditures associated with these additional positions, including salaries, employee benefits, retirement contributions, and other applicable compensation costs.

In addition to the direct costs of establishing a fourth platoon, the analysis considers the potential financial implications of changes in scheduled work hours, Fair Labor Standards Act (FLSA) Section 207(k) overtime thresholds, overtime expenditures, leave coverage, and staffing relief requirements. These considerations are important because the financial impact of a schedule transition extends beyond the salaries and benefits of newly authorized positions. Changes in scheduled hours and staffing availability can influence both regular payroll expenditures and the department's ongoing need to utilize overtime to maintain minimum operational staffing.

As an alternative to establishing a fourth platoon, this section also examines a modified three-platoon work schedule that differs from the traditional 24/48 rotation. This alternative is intended to evaluate whether changes in the frequency and distribution of scheduled duty periods could provide improvements in employee recovery time, fatigue management, work-life balance, and workforce retention while limiting the additional personnel expenditures associated with a four-platoon model. The analysis recognizes that alternative three-platoon schedules may introduce different staffing, overtime, and coverage considerations that must be evaluated alongside their potential workforce benefits.

The purpose of this cost analysis is to provide city leadership with a clear understanding of the financial commitments and operational considerations with each staffing alternative. While personnel costs represent a significant component of the decision, CPSM recognizes that schedule modifications must also be evaluated in the broader context of recruitment and retention, employee health and wellness, operational readiness, service delivery reliability, and the long-term sustainability of the department's workforce. The comparative analysis is intended to support an informed decision that balances the city's fiscal responsibilities with the department's operational requirements and the needs of its employees.

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Cost Analysis for Additional Staff

A comparative staffing and personnel cost analysis evaluates four operational shift schedules for the Goose Creek Fire Department (GCFD), including two three-platoon systems and two four-platoon alternatives. Each schedule is evaluated under both a 14-day and 28-day Fair Labor Standards Act (FLSA) Section 207(k) work period. The analysis considers scheduled annual work hours, FLSA overtime exposure, regular personnel costs, overtime compensation (FLSA hours), employee benefits, and total estimated annual personnel expenditures. The next outlines this body of work.

Table 10: Hours Worked-FLSA Cost Comparison for 3-Platton and 4-Platoon Schedules

Hours Worked						Cost Comparision					
Schedule	Number of Platoons	FLSA Cycle	Regular Hours	FLSA Overtime Hours	Total Hours Worked	Number of Personnel	Average Hourly Rate	Regular Hours Cost	FLSA Overtime Hours Costs	Benefits Costs	Total Personnel Costs
Current Schedule 24 on/48 off	3	14 Days	2,676	252	2,928	54	$25.49	$3,682,988	$520,243	$2,437,874	$6,641,104
24 on/48 off	3	28 Days	2,756	172	2,928	54	$25.49	$3,793,092	$355,086	$2,405,943	$6,554,122
24 on/24 off/24 on/24 off/ 24 on/96 off	3	14 Days	2,646	282	2,928	54	$25.49	$3,641,699	$582,176	$2,449,848	$6,673,723
24 on/24 off/24 on/24 off/ 24 on/96 off	3	28 Days	2,756	172	2,928	54	$25.49	$3,793,092	$355,086	$2,405,943	$6,554,122
24 on/72 off	4	14 Days	2,184	0	2,184	72	$33.98	$5,343,712	$0	$3,099,353	$8,443,064
24 on/72 off	4	28 Days	2,184	0	2,184	72	$33.98	$5,343,712	$0	$3,099,353	$8,443,064
24 on/24 off/24 on/120 off	4	14 Days	2,184	0	2,184	72	$33.98	$5,343,712	$0	$3,099,353	$8,443,064
24 on/24 off/24 on/120 off	4	28 Days	2,184	0	2,184	72	$33.98	$5,343,712	$0	$3,099,353	$8,443,064
Note: Due to the rotating schedule, the number of shifts worked can vary per platoon over a 52-week time period. For example, with a 3 platoon system, two platoons will work 121 shift and one platoon will work 122 shifts. For a 4 platoon system: 1 platoon will work 90 shifts, 2 platoons will work 91 shifts and 1 platoon will work 92 shifts. This table represents the platoon that works the most hours during a 52-week period.						Note: This comparision does not include any holiday, CEP hours or additional overtime hours for leave coverage.					

The analysis demonstrates that the most significant financial consideration is the transition from three platoons to four platoons, rather than the specific rotation selected within either staffing model. Both of the four-platoon alternatives require the addition of 18 operational personnel, increasing the department's staffing complement from 54 to 72 positions, a 33.3 percent increase. While this transition substantially reduces the scheduled annual hours worked by individual employees and eliminates regularly scheduled FLSA overtime under the modeled work periods, it also creates a significant recurring financial obligation for the city.

Table 11: Comparative Annual Personnel Costs

Staffing Alternative	Annual Personnel Cost	Change from Current
■ Current 24/48, 14-day FLSA	$6,641,104	Baseline
■ 24/48, 28-day FLSA	$6,554,122	**-$86,982**
■ Modified 3-platoon, 14-day FLSA	$6,673,723	**+$32,619**
■ Modified 3-platoon, 28-day FLSA	$6,554,122	**-$86,982**
■ Four-platoon, 24/72	$8,443,064	**+$1,801,960**
■ Four-platoon, 24/24/24/120	$8,443,064	**+$1,801,960**

The four-platoon alternatives have identical modeled costs under both 14-day and 28-day FLSA work periods.

The transition to a four-platoon schedule results in an estimated 27.1 percent increase in annual personnel costs compared with the current 24/48 schedule under the existing 14-day FLSA work period. This represents approximately $1.80 million in additional recurring annual personnel expenditures, before considering other operational and implementation costs not included in the model.

The comparative analysis also demonstrates that changing the FLSA work period from 14 days to 28 days, while retaining the current 24/48 schedule, produces a modeled annual savings of approximately $86,982, or 1.3 percent. This reduction results primarily from the redistribution of scheduled hours between regular compensation and FLSA overtime compensation, rather than a reduction in staffing or total hours worked.

Three-Platoon Schedule Alternatives

The existing three-platoon, 24/48 schedule requires personnel to work approximately 2,928 scheduled hours annually in the highest-worked platoon, averaging approximately 56 hours per week. The alternative three-platoon schedule, consisting of 24 hours on, 24 hours off, 24 hours on, 24 hours off, 24 hours on, and 96 hours off, maintains the same annual scheduled work hours and staffing complement of 54 personnel.

Although both schedules have equivalent annual work-hour requirements, the distribution of duty and recovery periods differs. The modified schedule provides a longer continuous recovery period of 96 hours following three 24-hour duty tours, potentially improving opportunities for rest, family time, and personal activities. However, the schedule also includes three duty periods within a relatively compressed timeframe, separated by only 24 hours off duty. This arrangement may create additional fatigue and sleep-recovery concerns, particularly when personnel experience significant overnight emergency activity.

From a financial perspective, the modified three-platoon schedule under a 14-day FLSA work period increases estimated annual personnel expenditures by $32,619, or approximately 0.5 percent, compared with the current schedule. However, under a 28-day FLSA work period, both three-platoon schedules have identical modeled annual personnel costs of $6,554,122.

This finding is significant because it suggests that the city could evaluate an alternative three-platoon rotation without incurring the substantial personnel costs associated with creating a fourth platoon. Nevertheless, the modified schedule does not reduce annual scheduled hours, eliminate schedule-generated overtime, or reduce the total number of duty tours worked by personnel. Consequently, its potential benefits are principally related to the distribution of work and recovery periods rather than a reduction in overall workload.

Four-Platoon Schedule Alternatives

Both four-platoon alternatives, including the 24/72 schedule and the 24/24/24/120 schedule require 72 operational personnel, representing 18 additional positions over the existing staffing complement.

Under either alternative, annual scheduled hours decrease from 2,928 to 2,184 for the highest-worked platoon, a reduction of 744 hours, or approximately 25.4 percent. The average scheduled workweek decreases from approximately 56 hours to 42 hours.

The reduction in scheduled hours represents a substantial change in the operational work environment. Personnel would experience fewer annual duty tours, longer recovery intervals, and potentially fewer cumulative overnight sleep interruptions. These changes may support improved employee health and wellness, work-life balance, and recruitment and retention.

The estimated annual personnel cost for either four-platoon alternative aggregately is $8,443,064 (72 fire suppression staff). Compared with the current 24/48 schedule (14-day FLSA work period), the additional annual cost is $1,801,960 (+ 18 staff) or a 27% increase.

Importantly, the four-platoon alternatives eliminate regularly scheduled FLSA overtime under the modeled 14-day and 28-day work periods. This does not mean that the department would eliminate all overtime expenditures. Overtime would continue to be necessary for minimum staffing coverage, employee leave, vacancies, training, emergency callbacks, and other operational requirements.

FLSA Work Period Considerations

An important finding of the analysis is the financial effect associated with changing the department's FLSA Section 207(k) work period from 14 days to 28 days.

Under the current 24/48 schedule, the model identifies 252 annual FLSA overtime hours per employee under the 14-day work period, compared and 172 hours under the 28-day work period. This difference results in an estimated $165,157 reduction in scheduled FLSA overtime costs. After accounting for changes in regular compensation and employee benefits, the modeled net savings total approximately $86,982 annually.

The alternative three-platoon schedule demonstrates an even greater difference between the modeled 14-day and 28-day work periods, with estimated annual personnel costs decreasing by $119,601.

These findings illustrate that the selection of an FLSA work period can materially influence scheduled overtime expenditures, even when total annual hours worked remain unchanged. However, any modification to the established work period must comply with FLSA Section 207(k), applicable compensation policies, employment agreements, and the department's actual recurring duty-cycle calculations. A 28-day work period cannot be adopted solely as a mechanism for avoiding overtime obligations.

CPSM assesses that the comparative cost analysis presents the city with two fundamentally different approaches to addressing employee scheduling, workforce sustainability, and recruitment and retention concerns.

The first approach involves retaining the existing three-platoon staffing structure while modifying either the operational schedule, the FLSA work period, or both. This approach offers the greatest opportunity for controlling personnel expenditures while potentially providing a more favorable distribution of duty and recovery periods. However, it does not materially reduce the annual scheduled workload of individual employees and may not fully address the cumulative fatigue, sleep interruption, and work-life balance concerns associated with a 56-hour average workweek.

The second approach involves establishing a fourth platoon and increasing the operational staffing complement by 18 positions. This represents a more substantial organizational and financial commitment but provides a meaningful reduction in annual scheduled work hours and a corresponding increase in time away from duty. The four-platoon alternatives may offer greater long-term benefits for employee recovery, workforce satisfaction, recruitment, and

retention. These benefits, however, must be weighed against the approximately $1.80 million increase in recurring annual personnel expenditures.

CPSM further assesses that the two four-platoon alternatives should not be distinguished solely by their financial costs, as the modeled expenditures are identical. Instead, the decision between the 24/72 and 24/24/24/120 schedules should consider the spacing of duty tours, cumulative fatigue exposure, sleep recovery, operational continuity, employee preferences, and the department's ability to maintain consistent minimum staffing.

Ultimately, the decision to implement a four-platoon schedule should not be based exclusively on the additional cost of 18 operational positions. It should also consider whether the resulting improvements in employee recovery, recruitment competitiveness, retention, and workforce sustainability provide sufficient long-term organizational value to justify the recurring financial commitment.

Proposed 4 Platoon Shift Schedule Cost Analysis

The next table illustrates the distribution of regular and overtime hours associated with a four-platoon, 24-hour-on/24-hour-off/24-hour-on/120-hour-off (24/24/24/120) schedule under both a 14-day and 28-day Fair Labor Standards Act (FLSA) Section 207(k) work period. The analysis demonstrates that this schedule provides a substantial reduction in annual scheduled work hours compared with the department's existing three-platoon, 24/48 schedule, while eliminating regularly scheduled FLSA overtime under either work period.

Table 12: Proposed 4-Platton Schedule: 14 Day Work Period-28 Day Work Period

Regular and Overtime hours by pay period for a 24/24/24/120 schedule for a 14 day FLSA and 28 day FLSA cycle

24 on /24 off /24 on/120 off (4 Platoons)														
Hours Worked				14 Day FLSA Cycle Overtime at 106 hours					28 Day FLSA Cycle Overtime at 212 hours					
Pay Period	Week 1	Week 2	Pay Period Total Hours	Pay Period	Regular Hours	Overtime Hours	Pay Period Total Hours	How many shifts until overtime	Pay Period	Regular Hours	Overtime Hours	Pay Period Total Hours	How many shifts until overtime
1	48	24	72	1	72		72	1.42	1	72		72	
2	48	48	96	2	96		96	0.42	2	96		96	1.83
3	48	48	96	3	96		96	0.42	3	96		96	
4	48	24	72	4	72		72	1.42	4	72		72	1.83
5	48	24	72	5	72		72	1.42	5	72		72	
6	48	48	96	6	96		96	0.42	6	96		96	1.83
7	48	48	96	7	96		96	0.42	7	96		96	
8	48	24	72	8	72		72	1.42	8	72		72	1.83
9	48	24	72	9	72		72	1.42	9	72		72	
10	48	48	96	10	96		96	0.42	10	96		96	1.83
11	48	48	96	11	96		96	0.42	11	96		96	
12	48	24	72	12	72		72	1.42	12	72		72	1.83
13	48	24	72	13	72		72	1.42	13	72		72	
14	48	48	96	14	96		96	0.42	14	96		96	1.83
15	48	48	96	15	96		96	0.42	15	96		96	
16	48	24	72	16	72		72	1.42	16	72		72	1.83
17	48	24	72	17	72		72	1.42	17	72		72	
18	48	48	96	18	96		96	0.42	18	96		96	1.83
19	48	48	96	19	96		96	0.42	19	96		96	
20	48	24	72	20	72		72	1.42	20	72		72	1.83
21	48	24	72	21	72		72	1.42	21	72		72	
22	48	48	96	22	96		96	0.42	22	96		96	1.83
23	48	48	96	23	96		96	0.42	23	96		96	
24	48	24	72	24	72		72	1.42	24	72		72	1.83
25	48	24	72	25	72		72	1.42	25	72		72	
26	48	48	96	26	96		96	0.42	26	96		96	1.83
Total Hours Worked			2184	Totals	2184	0	2184		Totals	2184	0	2184	

Under the proposed four-platoon rotation, personnel work two 24-hour duty tours separated by 24 hours off duty, followed by five consecutive days (120 hours) off duty. This rotation repeats every eight days and results in an average scheduled workweek of approximately 42 hours. For the 52-week period illustrated, the highest-worked platoon is scheduled for 91 duty tours, totaling 2,184 hours annually.

Scheduled Hours and FLSA Overtime

The table above demonstrates that the number of hours worked during individual 14-day pay periods varies according to the placement of duty tours within the rotating schedule. Personnel are scheduled for either 72 or 96 hours during the illustrated pay periods.

Under a 14-day FLSA Section 207(k) work period, the overtime threshold for employees engaged in fire protection activities is 106 hours. Because the maximum scheduled hours in any illustrated 14-day period are 96, ***the proposed schedule does not generate regularly scheduled FLSA overtime.***

Similarly, under a 28-day FLSA Section 207(k) work period, the applicable overtime threshold is 212 hours. The illustrated 28-day periods contain 168 hours, which is below the statutory threshold. Consequently, ***the proposed schedule does not generate regularly scheduled FLSA overtime under the 28-day work period.***

The absence of regularly scheduled FLSA overtime is an important financial consideration because it reduces the premium compensation associated with the department's current three-platoon schedule. However, this does not eliminate the need for overtime associated with employee absences, minimum staffing coverage, vacancies, training, emergency callbacks, and other operational requirements.

The proposed schedule reduces the annual scheduled workload by 744 hours, equivalent to 31 fewer 24-hour duty tours for the highest-worked platoon. This represents a 25.4 percent reduction in annual scheduled work hours and provides personnel with substantially more time away from the workplace.

The reduction in scheduled duty tours is particularly relevant to employee health, fatigue management, and work-life balance. Fire and EMS personnel routinely experience interrupted sleep during 24-hour duty periods, particularly in departments where nighttime emergency responses are frequent. Reducing the total number of annual duty tours may reduce cumulative exposure to nighttime sleep interruptions and provide additional opportunities for recovery.

However, the 24/24/24/120 schedule introduces a different fatigue consideration. Personnel return to duty after only 24 hours off following their first 24-hour tour. If the initial tour involves substantial nighttime emergency activity, the intervening 24-hour recovery period may not provide sufficient time to fully recover before returning for another 24-hour assignment.

Accordingly, the potential wellness benefits of this schedule should be evaluated in relation to the department's actual nighttime call volume, frequency of sleep interruptions, and employee recovery opportunities.

CPSM assesses that the proposed four-platoon 24/24/24/120 schedule provides several meaningful operational and workforce benefits, particularly through the reduction in annual scheduled duty hours and the elimination of regularly scheduled FLSA overtime. The schedule establishes a 42-hour average workweek, reduces the number of annual duty tours, and provides an extended 120-hour recovery period during each rotation.

These characteristics may improve the department's competitiveness in recruiting and retaining operational personnel, particularly when compared with departments operating traditional three-platoon schedules. The extended recovery period may also support employee wellness, family responsibilities, and work-life balance, all of which are important considerations in sustaining a career fire and EMS workforce.

Nevertheless, CPSM recognizes that the schedule's two 24-hour duty tours separated by only 24 hours off create a potential fatigue-management concern. The department should evaluate this characteristic carefully, particularly for personnel assigned to busy apparatus and EMS units where overnight emergency activity can significantly interrupt sleep.

From a financial perspective, the schedule provides no modeled cost advantage over the alternative four-platoon 24/72 schedule. Both require the same number of operational personnel, generate the same average annual scheduled work hours, and eliminate regularly scheduled FLSA overtime under the evaluated work periods.

CPSM therefore assesses that the selection between the two four-platoon schedules should be based primarily on operational considerations, employee recovery, fatigue management, workforce preferences, and the department's recruitment and retention objectives rather than differences in baseline personnel expenditures.

The 24/24/24/120 schedule represents a viable alternative for the department's consideration, provided that the city is prepared to support the additional recurring personnel costs and the department establishes appropriate measures to monitor fatigue, overtime utilization, employee wellness, and operational performance.

One-, Two-, and Three-Year 4-Platoon Implementation Schedules

The following section presents a comparative cost analysis of implementing the proposed four-platoon, 24/24/24/120 shift schedule over one-, two-, and three-year implementation periods. The purpose of this analysis is to evaluate the financial implications of transitioning from the Goose Creek Fire Department's existing three-platoon staffing model to a four-platoon system through alternative hiring and implementation timelines. Each scenario considers the personnel expenditures associated with hiring the 18 additional operational personnel necessary to establish the fourth platoon, while recognizing that the timing of these hires will influence annual budget requirements and the city's ability to distribute the financial commitment over multiple fiscal years. ***All scenarios include a 3.5% increase from year to year in salary (to cover any cost-of-living adjustments) as well as .5% increase in benefits to account for any increases with this component.***

A fundamental assumption of the analysis is that the department will continue operating under its existing three-platoon, 24/48 schedule until all 18 additional positions have been filled, all promotions are made, and the fourth platoon can be fully implemented. Accordingly, the phased hiring scenarios initially utilize the existing three-platoon hourly compensation rates, reflecting the continuation of the current work schedule during the recruitment and staffing transition. Once the necessary personnel have been hired and the department transitions to the four-platoon schedule, the analysis applies the corresponding four-platoon hourly rates, which reflect the reduction in scheduled annual work hours from approximately 2,928 to 2,184 for the highest-worked platoon.

This distinction is important because the financial impact of hiring additional personnel under the existing three-platoon schedule differs from the ongoing personnel costs associated with operating a fully implemented four-platoon system. During the transition, newly hired personnel

would supplement the department's existing staffing complement while the current shift schedule remains in effect. Once the fourth platoon is established, the department will transition to the revised schedule, compensation structure, and associated staffing requirements. The analysis therefore distinguishes between the costs incurred during the implementation period and the recurring personnel expenditures associated with the completed four-platoon model.

The analysis also considers two potential approaches to filling the additional Battalion Chief position required for the fourth platoon: recruiting and hiring an external candidate or promoting a qualified internal candidate. Both approaches are considered realistic alternatives and have different financial and organizational implications. An external hire would introduce an additional Battalion Chief directly into the organization, while an internal promotion would create a vacancy at the promoted employee's previous rank, potentially requiring additional promotional actions or recruitment to restore the department's authorized staffing complement. The comparative scenarios account for these differences to illustrate their respective personnel cost implications.

By evaluating one-, two-, and three-year implementation periods, the analysis provides city leadership with an understanding of how the timing of recruitment, hiring, promotions, and schedule conversion affects projected personnel expenditures. A shorter implementation period would accelerate the transition to the four-platoon schedule and its associated workforce benefits but would require the city to absorb the additional personnel costs over a more compressed timeframe. Conversely, a phased implementation over two or three years would distribute the hiring process and associated expenditures over a longer period, potentially providing greater budgetary flexibility while delaying the full realization of the operational and workforce benefits associated with the new schedule.

CPSM's objective is to identify the financial implications and practical considerations associated with each implementation alternative, allowing city leadership to evaluate the most fiscally responsible and operationally achievable approach to establishing a fourth platoon. The analysis is intended to support a transition strategy that balances recruitment capacity, employee compensation, operational readiness, workforce sustainability, and the city's long-term financial commitments.

One Year Transition

The one-year implementation analysis evaluates the financial implications of hiring the 18 additional operational personnel necessary to establish a fourth platoon within fiscal year 2027. Two staffing alternatives are considered: recruiting an external Battalion Chief to fill the fourth platoon's command position or promoting an existing department member to Battalion Chief and completing the resulting promotional and staffing adjustments internally.

CPSM calculates hiring the 18 new staff at 3-Platoon rates reflecting the assumption that GCFD will continue operating under its current 24/48 schedule until all 18 additional positions are filled and the fourth platoon is operational. CPSM contemplates the new schedule beginning January 1, 2028, when all personnel are hired and promotions are completed.

Additionally, CPSM contemplates hiring new recruits, employees already certified and with experience from external department, and promotions to Engineer and Lieutenant.

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Table 13: 1-Year Transition-3 Platoon Hourly Rates

FY 2027 -Fourth Platoon in One Year -External BC -3P Rates										
	Quantity of New Hires	Average Hourly Rate	Average OT Rate	Straight Hours	Overtime Hours	Straight Time Cost	OT Cost	Total Salary Costs	Total Benefits	Total Personnel Cost
4th Platoon -External BC -3P Rates	**18**	**$16.66**	**$24.99**	**83,328**	**7,056**	**$1,184,553**	**$150,457**	**$1,335,010**	**$774,306**	**$2,109,316**
FF/PM (new) -FY 27	6	$21.70	$32.55	17,856	1,512	$387,475	$49,216	$436,691	$253,281	$689,971
FF/EMT (new) -FY 27	4	$18.94	$28.41	11,904	1,008	$225,462	$28,637	$254,099	$147,377	$401,476
FF/PM (lateral) -FY 27	4	$22.35	$33.53	11,904	1,008	$266,066	$33,795	$299,861	$173,919	$473,780
FF/EMT (lateral) -FY 27	3	$19.51	$29.26	8,928	756	$174,169	$22,122	$196,292	$113,849	$310,141
Battalion Chief -FY 27_NH	1	$31.61	$47.42	2,976	252	$94,071	$11,949	$106,020	$61,492	$167,512
Promotion to Lieutenant -FY 27	5	$1.35	$2.02	14,880	1,260	$20,063	$2,548	$22,611	$13,114	$35,725
Promotion to Engineer -FY27	5	$1.16	$1.74	14,880	1,260	$17,246	$2,191	$19,437	$11,273	$30,710

FY 2027 -Fourth Platoon in One Year -BC Promo -3P Rates										
	Quantity of New Hires	Average Hourly Rate	Average OT Rate	Straight Hours	Overtime Hours	Straight Time Cost	OT Cost	Total Salary Costs	Total Benefits	Total Personnel Cost
4th Platoon -BC Promo -3P Rates	**18**	**$11.03**	**$16.54**	**92,256**	**7,812**	**$1,162,055**	**$147,600**	**$1,309,655**	**$759,600**	**$2,069,255**
FF/PM (new) -FY 27	6	$21.70	$32.55	17,856	1,512	$387,475	$49,216	$436,691	$253,281	$689,971
FF/EMT (new) -FY 27	4	$18.94	$28.41	11,904	1,008	$225,462	$28,637	$254,099	$147,377	$401,476
FF/PM (lateral) -FY 27	4	$22.35	$33.53	11,904	1,008	$266,066	$33,795	$299,861	$173,919	$473,780
FF/EMT (lateral) -FY 27	4	$19.51	$29.26	11,904	1,008	$232,226	$29,496	$261,722	$151,799	$413,521
Promotion to Battalion Chief -FY 27	1	$1.76	$2.64	2,976	252	$5,247	$666	$5,913	$3,430	$9,343
Promotion to Captain -FY 27	1	$1.43	$2.15	2,976	252	$4,258	$541	$4,799	$2,784	$7,583
Promotion to Lieutenant -FY 27	6	$1.35	$2.02	17,856	1,512	$24,075	$3,058	$27,133	$15,737	$42,870
Promotion to Engineer -FY27	5	$1.16	$1.74	14,880	1,260	$17,246	$2,191	$19,437	$11,273	$30,710

Table 14: Comparison of One-Year Implementation Costs: 3-Platoon Rates

Cost Component	External BC Hire	Internal BC Promotion
Additional personnel	18	18
Straight-time costs	$1,184,553	$1,162,055
Overtime costs	$150,457	$147,600
Total salary costs	$1,335,010	$1,309,655
Employee benefits	$774,306	$759,600
Total personnel costs	$2,109,316	$2,069,255

Estimated Recurrent Costs Beginning FY 2028 When 4th Platoon Implemented

- 18 staff with BC promo -$2,132,284
- 18 staff with BC external hire -$2,170,116
- 54 Fire ops personnel -$6,657,759
  - ✓ 72 staff on a 14-day cycle with internal BC Promo - **$8,790,043**
  - ✓ 72 staff on a 28-day cycle with internal BC Promo - **$8,790,043**
  - ✓ 72 staff on a 14-day cycle with External BC hire - **$8,827,875**
  - ✓ 72 staff on a 28-day cycle with External BC hire - **$8,827,875**

CPSM assesses that the one-year implementation cost analysis provides an important financial comparison of the personnel expenditures associated with establishing a fourth operational platoon within the GCFD. The analysis evaluates the cost of hiring the 18 additional operational personnel while the department continues operating under its existing three-platoon, 24/48 schedule, and the annualized cost of those additional positions and associated promotional adjustments once the department transitions to the proposed four-platoon, 24/24/24/120 schedule. CPSM then estimates a full year of the 24/24/24/120 schedule recurring costs.

The distinction between the three-platoon and four-platoon compensation models is particularly important because the department would not implement the proposed four-platoon schedule until all 18 additional operational positions are filled and personnel are prepared for deployment. During the recruitment and hiring period, the department would continue operating under the existing three-platoon schedule, with compensation calculated using the applicable three-platoon hourly rates and regularly scheduled FLSA overtime. Once the fourth platoon is established, personnel would transition to the revised schedule, which reduces average scheduled weekly hours from approximately 56 to 42 and eliminates regularly scheduled FLSA overtime under the evaluated Section 207(k) work periods.

An important finding is that the one-year implementation scenario would require a substantial recruitment and onboarding effort. Hiring 18 additional operational personnel within a single fiscal year, while simultaneously managing promotional processes, would place additional demands on the department's administrative, training, and supervisory resources. The department would need to coordinate recruitment, background investigations, medical evaluations, training, certifications, equipment procurement, and operational assignments while maintaining its existing service delivery capabilities.

CPSM also recognizes that the additional personnel hired during the transition period could provide operational benefits before the fourth platoon is formally activated. Depending on their qualifications, deployment assignments, and the timing of their employment, these personnel could supplement existing platoon staffing, provide additional leave coverage, reduce certain overtime backfill requirements, and increase operational flexibility. However, these potential benefits are not quantified in the comparative personnel cost tables and should not be assumed to produce a dollar-for-dollar reduction in overtime expenditures.

CPSM further emphasizes that the elimination of regularly scheduled FLSA overtime under the four-platoon model should not be interpreted as the elimination of operational overtime. The department will continue to experience staffing vacancies and absences associated with vacation, sick leave, injury, training, and other personnel requirements. Maintaining established minimum staffing levels will continue to require a combination of available relief personnel, float assignments, and overtime backfill. Consequently, the financial benefits associated with eliminating schedule-generated FLSA overtime must be considered separately from the department's ongoing overtime requirements for maintaining operational staffing.

Overall, ***CPSM assesses*** that the one-year implementation analysis demonstrates that both the external Battalion Chief hiring and internal promotion alternatives are viable staffing strategies, with internal promotion providing a modest financial advantage under both compensation models. The relatively small differences between three-platoon and four-platoon compensation costs further demonstrate that the principal financial commitment associated with the proposed schedule transition is the addition of 18 operational personnel, rather than the change in hourly rates or the elimination of scheduled FLSA overtime.

CPSM recommends that the city consider the one-year implementation alternative in the context of its available financial resources, recruitment capacity, promotional readiness, and ability to absorb the recurring costs of the additional staffing complement. While a one-year transition would allow the department to realize the workforce benefits of the four-platoon schedule sooner than a phased two- or three-year implementation, it would also require the city to commit substantial personnel funding within a relatively compressed period.

The ultimate decision should balance the financial requirements of implementation with the anticipated improvements in employee recovery, fatigue management, work-life balance, recruitment competitiveness, and retention. These workforce considerations are central to the department's long-term operational sustainability and should remain an integral part of the city's evaluation of the proposed fourth platoon.

Two-Year Transition

The following analysis evaluates the financial implications of implementing the Goose Creek Fire Department's proposed four-platoon, 24/24/24/120 shift schedule over a two-year period, beginning in FY 2027, and concluding in FY 2028. This alternative provides a phased approach to hiring the 18 additional operational personnel necessary to establish the fourth platoon, allowing the city to distribute personnel expenditures over two fiscal years rather than absorbing the full financial commitment within a single budget year.

Under this implementation scenario, the first year utilizes the existing three-platoon compensation rates and assumes half-year funding for personnel hired during FY 2027. This approach recognizes that recruitment, selection, onboarding, and training require time and that newly authorized positions may not be filled at the beginning of the fiscal year. The half-year funding assumption provides a planning estimate for the initial personnel expenditures while allowing the department to begin building the staffing complement necessary for the eventual transition.

During the first year, the department would continue operating under its existing three-platoon, 24/48 schedule. Consequently, the cost analysis applies the current three-platoon hourly rates, including applicable regularly scheduled FLSA overtime and employee benefits. Personnel hired during this period would supplement the department's existing operational workforce but would not result in the immediate implementation of the fourth platoon. Depending on their qualifications and assignments, these additional personnel could provide supplemental staffing capacity, assist with leave coverage, and potentially reduce certain overtime expenditures while the department continues its recruitment efforts.

The staffing analysis also contemplates a combination of newly recruited entry-level firefighters and lateral hires consisting of certified firefighters from other fire departments. This distinction is important because the recruitment pathway can influence starting compensation, training requirements, onboarding timelines, and the speed at which additional personnel become available for operational deployment. Newly recruited firefighters may require initial fire academy training, emergency medical certification, and additional field orientation before becoming qualified for independent operational assignments. Conversely, lateral hires who possess recognized firefighter certifications, relevant emergency medical qualifications, and previous operational experience may require less initial training, although they would still need to complete department-specific orientation, competency verification, and any applicable certification requirements.

The inclusion of both entry-level and lateral recruitment provides the department with greater flexibility in meeting its staffing objectives. Lateral recruitment may accelerate the availability of

qualified operational personnel and reduce some initial training demands, while entry-level recruitment allows the department to develop personnel within its organizational culture and establish a longer-term workforce pipeline. The cost analysis shows that these recruitment pathways may carry different starting hourly rates and employee benefit expenditures. Accordingly, CPSM considers both approaches in estimating the personnel costs associated with the phased implementation.

In the second year, the analysis applies four-platoon compensation rates to the additional personnel and associated promotional adjustments, reflecting the planned completion of the hiring process and transition to the proposed 24/24/24/120 schedule. These rates account for the reduction in average scheduled weekly hours from approximately 56 to 42 and the corresponding elimination of regularly scheduled FLSA overtime under the evaluated Section 207(k) work periods. The second-year analysis therefore reflects the personnel cost structure associated with operating under the proposed four-platoon schedule rather than continuing the existing three-platoon compensation model.

As with the one-year implementation analysis, CPSM evaluates two alternatives for filling the additional Battalion Chief position required to establish the fourth platoon. The first alternative assumes the department recruits and hires an external Battalion Chief, while the second assumes a qualified internal candidate is promoted to the position. The internal promotion scenario also considers the associated promotional adjustments necessary to fill vacancies created through advancement within the department's rank structure. Both alternatives are considered realistic approaches, and their respective personnel costs are evaluated to identify differences in financial requirements.

The two-year implementation alternative provides several potential advantages. Distributing the hiring process across two fiscal years may improve the city's ability to plan for and absorb additional personnel expenditures while providing the department with more time to recruit qualified candidates, conduct promotional processes, and complete necessary training. The use of both entry-level and lateral recruitment strategies may further enhance the department's ability to meet its hiring objectives, particularly in a competitive regional labor market for qualified firefighters and firefighter/paramedics. This approach may also reduce the administrative and operational demands associated with hiring a substantial number of employees within a single fiscal year.

The purpose of this analysis is to compare the financial requirements of a two-year implementation under both Battalion Chief staffing alternatives while accounting for different recruitment pathways, compensation structures, and implementation timelines. CPSM considers this alternative in the broader context of the city's fiscal capacity, the department's recruitment and promotional capabilities, and the importance of implementing a sustainable staffing schedule that supports operational readiness, employee health and wellness, recruitment, and long-term retention.

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Table 17: 2-Year Transition-Mixed Rates (3 and 4 Platoon Hourly Rates)

Fourth Platoon Added Over 2 Years -FY 27 Hires (funded for 50% of the year) at 3P Rates; -FY 28 Hires (funded for 100% of the year) and Promotions (funded at 75% of the year) at 4P Rates	Quantity of New Hires	Average Hourly Rate	Average OT Rate	Straight Hours	Overtime Hours	Straight Time Cost	OT Cost	Total Salary Costs	Total Benefits	Total Personnel Cost
FY 2027 Costs -3P Rates	**4.5**	**$20.62**	**$30.94**	**13,392**	**1,134**	**$277,807**	**$35,286**	**$313,093**	**$181,594**	**$494,687**
FF/PM (new) -FY 27	1.5	$21.70	$32.55	4,464	378	$96,869	$12,304	$109,173	$63,320	$172,493
FF/EMT (new) -FY 27	**1**	**$18.94**	**$28.41**	**2,976**	**252**	**$56,365**	**$7,159**	**$63,525**	**$36,844**	**$100,369**
FF/PM (lateral) -FY 27	1	$22.35	$33.53	2,976	252	$66,517	$8,449	$74,965	$43,480	$118,445
FF/EMT (lateral) -FY 27	1	$19.51	$29.26	2,976	252	$58,056	$7,374	$65,431	$37,950	$103,380
FY 2028 Additional Costs -External BC (All promotions are funded for 75% of the year) -4P Rates	**9**	**$23.05**	**$34.57**	**40,986**	**0**	**$709,724**	**$0**	**$709,724**	**$415,189**	**$1,124,913**
4P-FF/PM (new) -FY 28	2	$29.95	$44.92	4,968	0	$148,772	$0	$148,772	$87,032	$235,804
4P-FF/EMT (new) -FY 28	2	$26.14	$39.21	4,968	0	$129,865	$0	$129,865	$75,971	$205,837
4P-FF/PM (lateral) -FY 28	2	$30.84	$46.27	4,968	0	$153,235	$0	$153,235	$89,643	$242,878
4P-FF/EMT (lateral) -FY 28	2	$26.92	$40.39	4,968	0	$133,761	$0	$133,761	$78,250	$212,012
4P-Battalion Chief -FY 28_NH	1	$43.63	$65.44	2,484	0	$108,365	$0	$108,365	$63,393	$171,758
4P-Promotion to Engineer -FY28	3.75	$1.86	$2.79	9,315	0	$17,332	$0	$17,332	$10,139	$27,471
4P-Promotion to Lieutenant -FY 28	3.75	$1.97	$2.96	9,315	0	$18,394	$0	$18,394	$10,761	$29,155
FY 2028 Additional Costs -BC Promo - (All promotions are funded for 75% of the year) -4P Rates	**9**	**$15.35**	**$23.03**	**46,575**	**0**	**$688,957**	**$0**	**$688,957**	**$403,040**	**$1,091,997**
4P-FF/PM (new) -FY 28	3	$29.95	$44.92	7,452	0	$223,158	$0	$223,158	$130,547	$353,706
4P-FF/EMT (new) -FY 28	2	$26.14	$39.21	4,968	0	$129,865	$0	$129,865	$75,971	$205,837
4P-FF/PM (lateral) -FY 28	2	$30.84	$46.27	4,968	0	$153,235	$0	$153,235	$89,643	$242,878
4P-FF/EMT (lateral) -FY 28	2	$26.92	$40.39	4,968	0	$133,761	$0	$133,761	$78,250	$212,012
4P-Promotion to Battalion Chief -FY 28	0.75	$2.68	$4.03	1,863	0	$5,000	$0	$5,000	$2,925	$7,925
4P-Promotion to Engineer -FY28	3.75	$1.86	$2.79	9,315	0	$17,332	$0	$17,332	$10,139	$27,471
4P-Promotion to Lieutenant -FY 28	4.5	$1.97	$2.96	11,178	0	$22,073	$0	$22,073	$12,913	$34,986
4P-Promotion to Captain -FY 28	0.75	$2.43	$3.65	1,863	0	$4,532	$0	$4,532	$2,651	$7,184

Estimated Recurrent Costs Beginning FY 2029 When 4th Platoon Implemented

- 18 staff with BC promo -$2,132,284
- 18 staff with BC external hire -$2,170,116
- 54 Fire ops personnel -$6,657,759
  - ✓ 72 staff on a 14-day cycle with internal BC Promo - **$8,790,043**
  - ✓ 72 staff on a 28-day cycle with internal BC Promo - **$8,790,043**
  - ✓ 72 staff on a 14-day cycle with External BC hire - **$8,827,875**
  - ✓ 72 staff on a 28-day cycle with External BC hire - **$8,827,875**

The two-year phased implementation analysis evaluates the personnel costs associated with establishing the Goose Creek Fire Department's fourth operational platoon over FY 2027 and FY 2028. This alternative distributes the hiring of 18 additional operational personnel across two fiscal years, allowing the city to phase in the financial commitment while providing the department with additional time to recruit, hire, train, and prepare personnel for the transition to the proposed 24/24/24/120 schedule.

Under this scenario, the department would begin hiring additional personnel in FY 2027 while continuing to operate under its existing three-platoon, 24/48 schedule. The analysis assumes 4.5 full-year-equivalent positions in FY 2027, representing nine positions funded for approximately 50 percent of the fiscal year. These positions are costed using the existing three-platoon

compensation rates, including applicable regularly scheduled FLSA overtime and employee benefits.

In FY 2028, the department would hire the remaining nine operational personnel, completing the additional staffing complement necessary to establish the fourth platoon. The analysis applies four-platoon compensation rates to these additional positions, assuming full-year funding for the FY 2028 hires and 75 percent annual funding for the associated promotional adjustments. As with the one-year implementation analysis, CPSM evaluates two approaches to filling the additional Battalion Chief position: hiring an external candidate or promoting a qualified internal candidate.

FY 2027: Initial Hiring and Personnel Costs

The FY 2027 implementation phase includes a combination of newly recruited Firefighter/Paramedics and Firefighter/EMTs, along with lateral hires consisting of experienced and certified personnel from other fire departments. The combination of entry-level and lateral recruitment provides flexibility in building the additional staffing complement while recognizing differences in starting compensation, training requirements, and operational readiness.

The estimated FY 2027 personnel cost is $494,687, consisting of $277,807 in straight-time compensation, $35,286 in scheduled FLSA overtime (some savings in this depending on when assigned to field operations), and $181,594 in employee benefits.

CPSM assesses that this initial hiring phase provides several advantages. First, it distributes the financial commitment over multiple fiscal years rather than requiring the city to fund all 18 additional positions immediately. Second, it allows the department to begin recruiting and developing additional personnel while maintaining the existing operational deployment model. Third, the additional personnel may provide supplemental staffing capacity and potentially reduce certain overtime backfill requirements as they become qualified for operational assignments.

However, the actual operational benefit of these positions during FY 2027 would depend on the timing of hiring, completion of required training, and the qualifications of individual employees. Newly recruited firefighters may require additional training before becoming available for independent operational deployment, while experienced lateral hires may be available sooner following department-specific orientation and competency verification.

FY 2028: Completion of Hiring and Transition to Four Platoons

The second year represents the completion of the hiring process and planned transition to the four-platoon schedule. The analysis includes nine additional operational personnel, consisting of a combination of new recruits and lateral hires, together with the promotional adjustments necessary to establish the fourth platoon's supervisory and command structure. This alternative assumes an internal promotion or external hiring of one Battalion Chief, together with the corresponding promotional adjustments to Captain (if internal BC promotion), Lieutenant, and Engineer.

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Table 18: Two-Year Comparative Personnel Costs

Cost Component	External BC Hire	Internal BC Promotion
FY 2027 personnel costs—3-platoon rates	$494,687	$494,687
FY 2028 additional costs—4-platoon rates	$1,124,913	$1,091,997
Combined modeled implementation costs	$1,619,600	$1,586,684
Difference between alternatives	—	-$32,916

The combined modeled costs total approximately $1.62 million under the external Battalion Chief hiring scenario and $1.59 million under the internal promotion scenario. These amounts combine the FY 2027 initial hiring costs with the FY 2028 additional hiring and promotional costs.

CPSM assesses that the two-year phased implementation alternative provides a reasonable balance between the city's financial planning responsibilities and the department's objective of transitioning to a four-platoon staffing model. By distributing the hiring of 18 additional operational personnel across two fiscal years, the city can begin addressing staffing and workforce sustainability concerns without absorbing the full financial commitment within a single budget cycle.

The FY 2027 cost estimate of $494,687 represents a comparatively manageable initial investment in establishing the additional staffing complement. The use of half-year funding recognizes the time required to recruit, select, and onboard personnel and provides flexibility in coordinating the hiring process with the city's fiscal-year budget.

CPSM further assesses that the combination of newly recruited firefighters and lateral hires is an important component of the proposed implementation strategy. Recruiting certified and experienced firefighters from other departments may reduce certain training requirements and accelerate the availability of operational personnel. At the same time, entry-level recruitment provides an opportunity to develop employees within GCFD's operational practices, organizational culture, and long-term career development system.

The department should recognize, however, that competition for qualified lateral firefighters and firefighter/paramedics may affect recruitment success. The availability of qualified applicants, starting compensation, employee benefits, promotional opportunities, and work schedules will influence the department's ability to meet its hiring objectives. Consequently, the two-year implementation timeline should provide sufficient flexibility to accommodate recruitment challenges without compromising hiring standards or operational readiness.

An important operational consideration is that the two-year implementation delays the full transition to the four-platoon schedule until FY 2028. During FY 2027, existing personnel would continue operating under the three-platoon, 24/48 schedule, with its associated scheduled overtime, duty frequency, and shorter recovery intervals. Accordingly, the workforce benefits associated with the four-platoon model including fewer annual duty tours, extended recovery periods, and improved opportunities for work-life balance would not be fully realized until the fourth platoon becomes operational.

Nevertheless, the additional personnel hired during FY 2027 may provide interim operational benefits. Depending on their qualifications and assignments, these employees could supplement minimum staffing, assist with leave coverage, and reduce reliance on mandatory

overtime. These potential benefits are particularly relevant to the department's recruitment and retention objectives, as reducing the frequency of forced overtime assignments may improve employee satisfaction even before the four-platoon schedule is implemented.

CPSM also assesses that the two-year implementation provides a more deliberate opportunity to manage organizational change. The department would have additional time to coordinate promotional processes, develop command and supervisory assignments, adjust operational policies, establish platoon rosters, and prepare for the revised work schedule. This preparation may reduce the operational disruption associated with transitioning the entire suppression workforce to a new staffing model.

Overall, ***CPSM assesses*** that the two-year implementation represents a practical alternative to a single-year transition, particularly if the city seeks to distribute hiring expenditures across multiple fiscal years while maintaining a defined timeline for establishing the fourth platoon. The approach provides greater flexibility for recruitment, training, promotional preparation, and financial planning, while allowing the department to achieve the anticipated workforce benefits of the proposed schedule within a relatively short period.

CPSM recommends that the city evaluate the two-year implementation alternative alongside the one-year and three-year scenarios, with particular attention to the timing of personnel expenditures, the availability of qualified recruits and lateral candidates, promotional readiness, and the department's ability to maintain minimum operational staffing throughout the transition. The final implementation strategy should also include a comprehensive FY 2028 personnel budget that accounts for the continued costs of FY 2027 hires, the additional FY 2028 positions, promotional adjustments, and the compensation implications of transitioning the existing workforce to the four-platoon schedule.

Three-Year Transition

Next CPSM evaluates the financial implications of implementing the proposed four-platoon, 24/24/24/120 shift schedule over a three-year period, beginning in FY 2027, and concluding in FY 2029. Under this alternative, the department would hire six additional operational personnel annually for three consecutive fiscal years, resulting in the 18 additional positions necessary to establish the fourth platoon. This approach provides the most gradual implementation strategy evaluated by CPSM, allowing the city to distribute hiring expenditures over three budget cycles while providing the department with additional time to recruit, train, and prepare personnel for the transition.

As with the one- and two-year implementation alternatives, the analysis contemplates a combination of newly recruited entry-level firefighters and lateral hires consisting of experienced, certified firefighters and firefighter/paramedics from other agencies. The use of both recruitment pathways provides flexibility in meeting staffing objectives, recognizing that lateral hires may require less initial training and become operationally available sooner, while entry-level recruitment supports the department's longer-term workforce development and succession planning efforts.

The analysis also incorporates the promotional adjustments necessary to establish the fourth platoon's supervisory and command structure. Two alternatives are evaluated for filling the additional Battalion Chief position: recruiting an external candidate or promoting a qualified internal member. The internal promotion alternative considers the resulting promotional progression through subordinate ranks, including Captain, Lieutenant, and Engineer positions, as applicable. Both approaches are evaluated to identify their respective financial implications.

Under the three-year implementation strategy, the department would continue operating under its existing three-platoon, 24/48 schedule until all 18 additional positions are filled and the fourth platoon is ready for deployment. Accordingly, personnel expenditures incurred before the transition would be calculated using the applicable three-platoon compensation rates, including scheduled FLSA overtime. Upon completion of the hiring process in FY 2029, the department would transition to the proposed four-platoon schedule and corresponding compensation rates, reflecting the reduction in average scheduled weekly hours from approximately 56 to 42 and the elimination of regularly scheduled FLSA overtime.

The principal advantage of the three-year alternative is the ability to distribute the financial commitment over a longer period, potentially reducing the immediate impact on the city's annual operating budget. This approach also provides additional time to coordinate recruitment, complete training, conduct promotional processes, and prepare for the organizational changes associated with establishing a fourth platoon. Personnel hired during the implementation period may also provide supplemental operational staffing, assist with leave coverage, and potentially reduce certain overtime backfill requirements before the new schedule becomes operational.

However, the extended implementation period would delay the full realization of the workforce benefits associated with the four-platoon schedule until FY 2029. Existing personnel would continue working the three-platoon schedule during the transition, including its higher annual scheduled work hours, more frequent duty tours, and shorter recovery intervals. These considerations are particularly relevant given the department's recruitment and retention challenges and its interest in improving employee health, wellness, fatigue management, and work-life balance.

The purpose of this analysis is to identify the personnel costs and operational considerations associated with a three-year implementation under both external and internal Battalion Chief staffing alternatives. CPSM evaluates this approach alongside the one- and two-year implementation scenarios to provide city leadership with a comprehensive understanding of the financial commitments, recruitment requirements, and workforce implications associated with each alternative. Ultimately, the analysis is intended to support an implementation strategy that balances fiscal responsibility, operational readiness, recruitment capacity, and the long-term sustainability of the department's workforce.

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Table 19: 3-Year Transition-Mixed Rates 3 and 4 Platoon Hourly Rates

Fourth Platoon Added Over 3 Years -FY 27 Hires and FY 28 Hires (100% funded) at 3P Rates; FY 29 Hires and Promotions (100% funded) at 4P Rates	Quantity of New Hires	Average Hourly Rate	Average OT Rate	Straight Hours	Overtime Hours	Straight Time Cost	OT Cost	Total Salary Costs	Total Benefits	Total Personnel Cost
FY 2027 Costs -3P Rates	**6**	**$20.62**	**$30.94**	**17,856**	**1,512**	**$366,462**	**$46,547**	**$413,009**	**$239,545**	**$652,554**
FF/PM (new) -FY 27	2	$21.70	$32.55	5,952	504	$129,158	$16,405	$145,564	$84,427	$229,990
FF/EMT (new) -FY 27	**2**	**$18.94**	**$28.41**	**5,952**	**504**	**$112,731**	**$14,319**	**$127,050**	**$73,689**	**$200,738**
FF/PM (lateral) -FY 27	1	$22.35	$33.53	2,976	252	$66,517	$8,449	$74,965	$43,480	$118,445
FF/EMT (lateral) -FY 27	1	$19.51	$29.26	2,976	252	$58,056	$7,374	$65,431	$37,950	$103,380
FY 2028 Additional Costs -3P Rates	**6**	**$21.35**	**$32.02**	**17,856**	**1,512**	**$389,795**	**$49,510**	**$439,305**	**$256,993**	**$696,299**
FF/PM (new) -FY 28	2	$22.46	$33.69	5,952	504	$133,679	$16,979	$150,658	$88,135	$238,793
FF/EMT (new) -FY 28	1	$19.60	$29.40	2,976	252	$58,338	$7,410	$65,748	$38,463	$104,211
FF/PM (lateral) -FY 28	2	$23.13	$34.70	5,952	504	$137,689	$17,489	$155,178	$90,779	$245,957
FF/EMT (lateral) -FY 28	1	$20.19	$30.29	2,976	252	$60,088	$7,632	$67,721	$39,617	$107,337
FY 2029 Additional Costs -External BC - 4P Rates	**6**	**$23.72**	**$35.59**	**39,744**	**0**	**$520,136**	**$0**	**$520,136**	**$306,880**	**$827,016**
4P-FF/PM (new) -FY 29	**2**	**$30.99**	**$46.49**	**4,968**	**0**	**$153,979**	**$0**	**$153,979**	**$90,848**	**$244,827**
4P-FF/EMT (new) -FY 29	1	$27.06	$40.58	2,484	0	$67,205	$0	$67,205	$39,651	$106,856
4P-FF/PM (lateral) -FY 29	1	$31.92	$47.89	2,484	0	$79,299	$0	$79,299	$46,787	$126,086
4P-FF/EMT (lateral) -FY 29	1	$27.87	$41.80	2,484	0	$69,221	$0	$69,221	$40,841	$110,062
4P-Battalion Chief -FY 29_NH	1	$45.15	$67.73	2,484	0	$112,157	$0	$112,157	$66,173	$178,330
4P-Promotion to Engineer -FY29	5	$1.93	$2.89	12,420	0	$23,918	$0	$23,918	$14,111	$38,029
4P-Promotion to Lieutenant -FY 29	5	$1.16	$1.73	12,420	0	$14,356	$0	$14,356	$8,470	$22,826
FY 2029 Additional Costs -BC Promo - 4P Rates	**6**	**$15.78**	**$23.67**	**47,196**	**0**	**$493,226**	**$0**	**$493,226**	**$291,003**	**$784,230**
4P-FF/PM (new) -FY 29	2	$30.99	$46.49	4,968	0	$153,979	$0	$153,979	$90,848	$244,827
4P-FF/EMT (new) -FY 29	1	$27.06	$40.58	2,484	0	$67,205	$0	$67,205	$39,651	$106,856
4P-FF/PM (lateral) -FY 29	1	$31.92	$47.89	2,484	0	$79,299	$0	$79,299	$46,787	$126,086
4P-FF/EMT (lateral) -FY 29	2	$27.87	$41.80	4,968	0	$138,443	$0	$138,443	$81,681	$220,124
4P-Promotion to Battalion Chief -FY 29	1	$2.78	$4.17	2,484	0	$6,900	$0	$6,900	$4,071	$10,971
4P-Promotion to Engineer -FY29	5	$1.93	$2.89	12,420	0	$23,918	$0	$23,918	$14,111	$38,029
4P-Promotion to Lieutenant -FY 29	6	$1.16	$1.73	14,904	0	$17,227	$0	$17,227	$10,164	$27,391
4P-Promotion to Captain -FY 29	1	$2.52	$3.78	2,484	0	$6,255	$0	$6,255	$3,690	$9,945

Estimated Recurrent Costs Beginning FY 2030 When 4th Platoon Implemented

- 18 with BC promo -$2,306,307
- 18 with BC external hire -$2,347,247
- 54 Fire ops personnel -$7,177,120
  - ✓ 72 on a 14-day cycle with BC Promo - **$9,483,427**
  - ✓ 72 on a 28-day cycle with BC Promo - **$9,483,427**
  - ✓ 72 on a 14-day cycle with External Promo - **$9,524,368**
  - ✓ 72 on a 28-day cycle with External Promo - **$9,524,368**

The three-year implementation alternative distributes the hiring of 18 additional operational personnel across FY 2027, FY 2028, and FY 2029, with six personnel hired annually. This approach allows the City of Goose Creek to phase in the financial commitment associated with establishing a fourth platoon while providing the department with additional time to recruit, train, and integrate personnel into its operational workforce. The 4th platoon schedule costing targets a January 2030 implementation.

Under this scenario, personnel hired in FY 2027 and FY 2028 are costed using the existing three-platoon compensation rates, including applicable FLSA overtime. The six additional personnel hired in FY 2029, together with the promotional adjustments necessary to establish the fourth platoon, are costed using four-platoon compensation rates. The analysis assumes full-year funding for the positions included in each fiscal year's costing.

The estimated personnel costs for the three-year implementation are summarized below.

Implementation Year	Estimated Personnel Costs
FY 2027—Six additional personnel	$652,554
FY 2028—Six additional personnel	$696,299
FY 2029—External Battalion Chief	$827,016
FY 2029—Internal Battalion Chief promotion	$784,230

The FY 2027 and FY 2028 estimates reflect the addition of firefighters and firefighter/paramedics through both entry-level and lateral recruitment. The combined annualized cost of these hiring groups is approximately $1.35 million, based on the compensation assumptions for their respective hiring years.

In FY 2029, the analysis includes the final six operational positions and the promotional adjustments necessary to establish the fourth platoon. Under the external Battalion Chief hiring alternative, the estimated additional personnel cost is $827,016. Under the internal Battalion Chief promotion alternative, the estimated cost is $784,230, representing a savings of $42,786, or approximately 5.2 percent, compared with the external hiring scenario.

The FY 2029 estimates reflect the elimination of regularly scheduled FLSA overtime under the four-platoon schedule. However, overtime associated with leave coverage, vacancies, training, and other operational requirements would continue.

These figures represent the costs of the staffing groups and promotional adjustments identified for each implementation year. They should not be interpreted as a complete three-year cumulative budget projection, as the tables do not separately account for the continued compensation of previously hired personnel in subsequent years or the departmentwide conversion to four-platoon rates.

CPSM assesses that the three-year implementation alternative provides the most gradual and potentially manageable approach to funding the additional personnel necessary to establish the fourth platoon. By distributing the hiring of 18 operational personnel across three fiscal years, the city can spread the initial financial commitment over multiple budget cycles while allowing the department additional time to recruit qualified candidates, complete training requirements, and prepare for the organizational transition.

The combination of entry-level and lateral recruitment provides flexibility in meeting staffing objectives. Lateral hires may become operationally available more quickly, while entry-level recruitment supports longer-term workforce development. Additionally, personnel hired during FY 2027 and FY 2028 may provide supplemental staffing capacity, assist with leave coverage, and potentially reduce certain overtime expenditures before the fourth platoon is implemented.

The principal disadvantage of the three-year implementation is the extended period before the department and its personnel realize the full benefits of the proposed four-platoon schedule.

Existing operational employees would continue working the 24/48 schedule through the transition, delaying the reduction in annual scheduled hours, longer recovery periods, and potential improvements in employee wellness, work-life balance, and retention until FY 2029.

This delay is particularly relevant given the department's recruitment and retention challenges and the potential effects of mandatory overtime and cumulative fatigue on employees. While additional personnel hired during the transition may provide some relief, the fundamental scheduling concerns associated with the existing three-platoon model would remain until the fourth platoon becomes operational.

CPSM assesses that the three-year implementation is a financially practical alternative for the city if annual budget constraints prevent a more accelerated transition. ***However, the longer implementation period must be weighed against the continued workforce challenges associated with the existing schedule. If financially achievable and supported by recruitment capacity, a shorter implementation timeline would allow the department to realize the anticipated employee wellness, recruitment, retention, and operational benefits sooner.***

Overall, ***CPSM recommends*** that the city consider the two-year alternative as part of its overall financial planning to implement the fourth platoon if suppurated by budgetary flexibility in FYs 27 and 28.

The next figures illustrate the 24/24/24/120 FLSA cycles (14 and 28 Day), as well as the 4-platoon shift calendar.

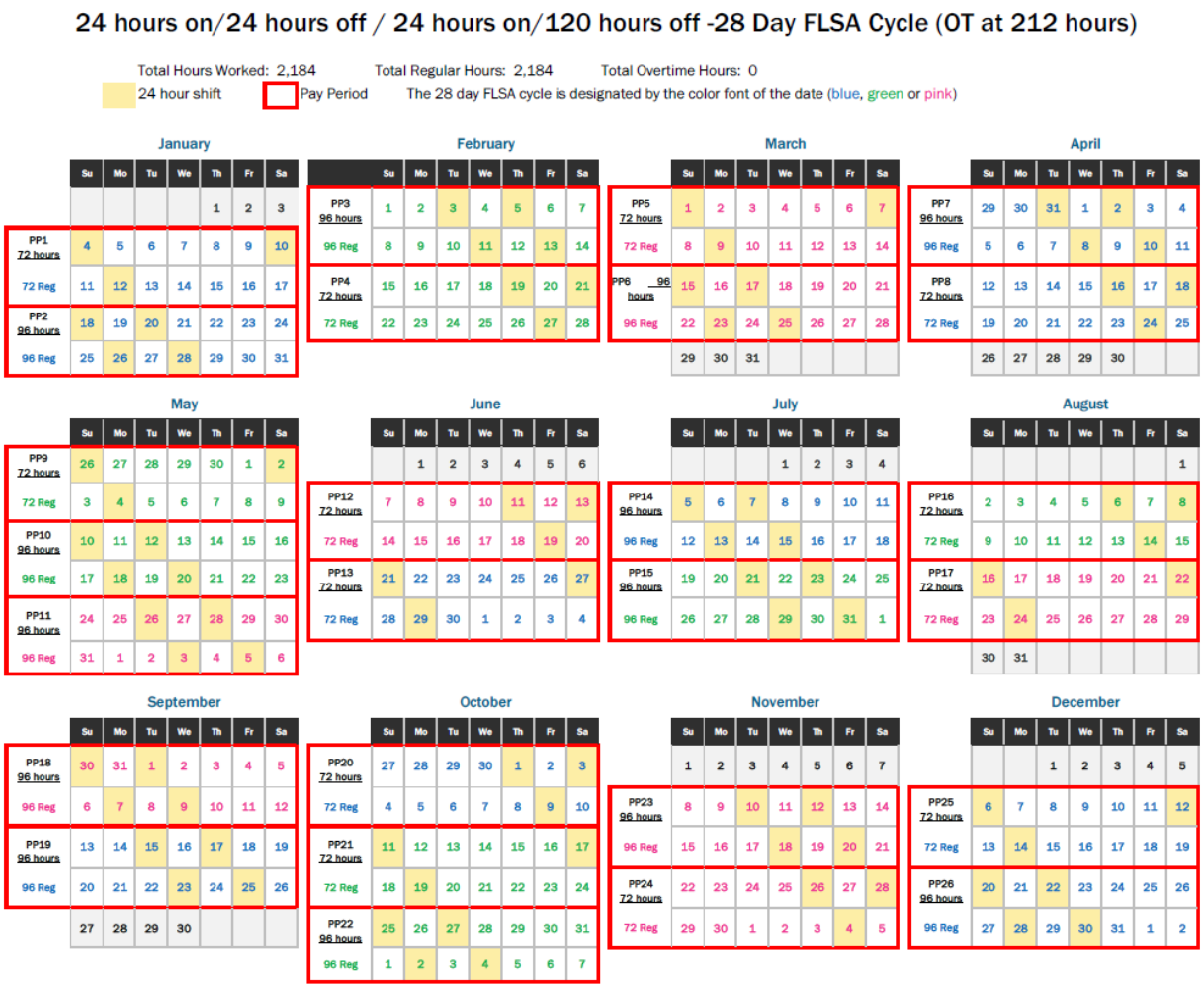
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Figure 1: 24/24/24/120 14-Day FLSA Cycle One-Year Calendar



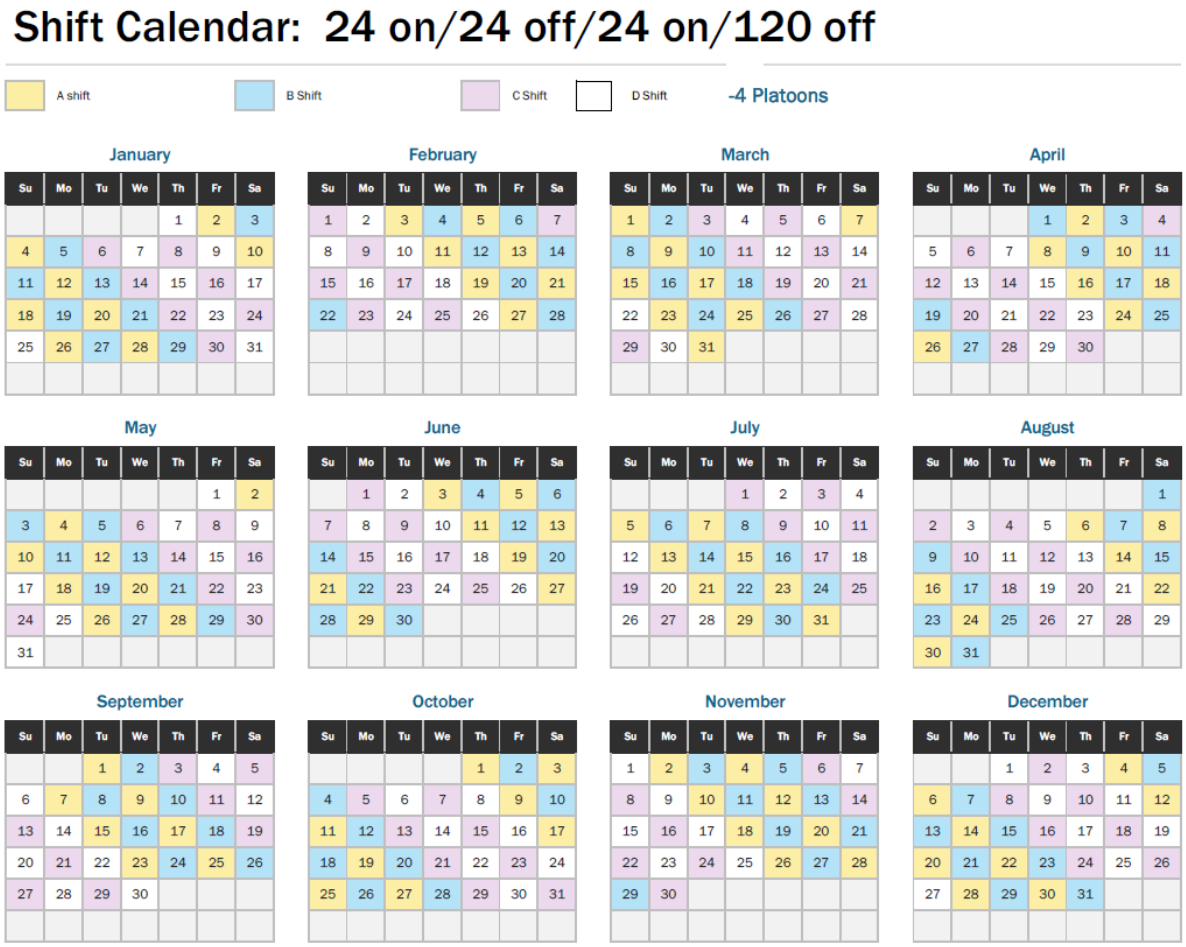
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Figure 2: 24/24/24/120 28-Day FLSA Cycle One-Year Calendar



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Figure 3: 24/24/24/120 One-Year Shift Calendar



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Alternate: 24 on/72 off 4-Platoon Analysis

As an alternative to the proposed four-platoon, 24/24/24/120 schedule, CPSM evaluated a traditional four-platoon, 24-hour-on/72-hour-off (24/72) shift schedule for the Goose Creek Fire Department (GCFD). This alternative maintains the same four-platoon staffing structure, authorized operational positions, annual scheduled work hours, and estimated personnel expenditures as the 24/24/24/120 schedule. The principal difference between the two alternatives is the distribution of duty tours and the length and frequency of scheduled recovery periods.

Under the 24/72 schedule, operational personnel work one continuous 24-hour duty tour followed by 72 consecutive hours off duty. The rotation repeats every four days, providing a consistent and predictable work schedule. As with the 24/24/24/120 alternative, the 24/72 schedule results in an average scheduled workweek of approximately 42 hours, compared with approximately 56 hours under the department's existing three-platoon, 24/48 schedule.

Implementation of the 24/72 schedule would require the same 18 additional operational personnel, increasing the department's staffing complement from 54 to 72. The estimated annual personnel cost of the fully implemented four-platoon staffing model would remain approximately $8.44 million (one-year costs-FY27), representing an increase of approximately $1.80 million over the existing three-platoon schedule under the current 14-day FLSA work period. The one-, two-, and three-year implementation alternatives previously evaluated by CPSM would remain applicable, as the staffing requirements and annual scheduled work hours are equivalent under both four-platoon schedules.

Table 20: Comparison of Four-Platoon Shift Schedules

Staffing and Schedule Measure	24/72 Schedule	24/24/24/120 Schedule
Number of platoons	4	4
Operational personnel	72	72
Additional personnel required	18	18
Average scheduled workweek	42 hours	42 hours
Annual scheduled hours (highest-worked platoon)	2,184	2,184
Annual 24-hour duty tours (highest-worked platoon)	91	91
Duty tour arrangement	One 24-hour tour	Two 24-hour tours separated by 24 hours off
Scheduled recovery periods	72 hours after every tour	24 hours, followed by 120 hours
Regularly scheduled FLSA overtime	None	None

Advantages of the 24/72 Schedule

One of the most significant advantages of the 24/72 schedule is the consistent 72-hour recovery period following every 24-hour duty tour. Fire and EMS personnel frequently experience interrupted sleep during overnight emergency responses, and the physical and cognitive demands of emergency operations can contribute to cumulative fatigue.

The 24/72 schedule provides personnel with three consecutive days away from duty after each shift, creating greater opportunities for sleep recovery, physical rehabilitation, family responsibilities, and personal activities. This is particularly important for personnel assigned to high-demand EMS units and fire apparatus that experience frequent nighttime responses.

Compared with the 24/24/24/120 schedule, the 24/72 rotation eliminates the requirement for personnel to return to duty after only 24 hours off. This distinction may be particularly beneficial following demanding duty tours involving multiple overnight incidents, extended emergency operations, or physically strenuous assignments.

Consistency and Predictability

The 24/72 schedule provides a straightforward and predictable work rotation. Personnel work one 24-hour tour followed by three days off, creating a consistent pattern that is relatively easy to understand, administer, and plan around.

This consistency may benefit employees in managing family responsibilities, childcare, personal appointments, continuing education, and other obligations. It may also simplify certain aspects of scheduling, platoon assignments, and workforce administration.

Fatigue Management and Employee Wellness

The 24/72 schedule may provide advantages in managing cumulative fatigue by consistently separating duty tours with 72 hours of recovery. Unlike the 24/24/24/120 schedule, which places two 24-hour duty periods within a 72-hour span, the 24/72 schedule distributes duty tours more evenly.

This may be particularly important for firefighters and paramedics who experience significant sleep disruption during emergency responses. Adequate recovery opportunities are important for maintaining alertness, decision-making, physical performance, and operational safety.

While neither schedule guarantees adequate rest, the more evenly distributed recovery periods under the 24/72 rotation may reduce the potential for employees to begin a scheduled duty tour without sufficient recovery from their previous assignment.

Recruitment and Retention

A four-platoon, 24/72 schedule may also provide a recruitment and retention advantage over the department's existing three-platoon, 24/48 schedule. The reduction in annual scheduled work hours, combined with longer recovery periods, may make the department more competitive when recruiting qualified firefighters and firefighter/paramedics.

For existing employees, the additional time away from duty may improve work-life balance, reduce dissatisfaction associated with frequent duty tours, and support long-term workforce sustainability.

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Disadvantages and Considerations of the 24/72 Schedule

Shorter Maximum Continuous Time Off

The principal disadvantage of the 24/72 schedule compared with the 24/24/24/120 schedule is the absence of the extended five-day recovery period. Under the 24/24/24/120 rotation, personnel receive 120 consecutive hours off following their second 24-hour duty tour. This extended period may be particularly attractive to employees who value longer uninterrupted blocks of personal time for family activities, travel, education, or other commitments.

Although the 24/72 schedule provides more consistent recovery between individual duty tours, it does not provide the same regularly recurring five-day break. Employee preferences regarding these two approaches may vary considerably.

Frequency of Returning to Duty

Under the 24/72 schedule, personnel return to work every fourth day. Under the 24/24/24/120 schedule, personnel work two relatively closely spaced duty tours followed by a longer period away from the workplace.

Although the total number of annual duty tours is the same, some employees may prefer completing two shifts within a shorter period and then receiving five consecutive days off. Others may prefer the more consistent distribution of duty and recovery provided by the 24/72 schedule.

This difference is largely a matter of how employees value recovery consistency compared with longer uninterrupted personal time.

Financial and Staffing Requirements Remain Unchanged

The 24/72 schedule does not provide a direct financial advantage over the 24/24/24/120 alternative. Both require four fully staffed platoons, the addition of 18 operational personnel, and the same average annual scheduled work hours. Likewise, both schedules would continue to require overtime or other relief staffing to address vacancies, employee leave, training, and minimum staffing requirements.

Consequently, the selection between the two alternatives should not be based on anticipated differences in baseline personnel costs, but rather on operational effectiveness, employee wellness, workforce preferences, and long-term organizational sustainability.

CPSM assesses that the four-platoon, 24/72 schedule represents a viable alternative to the proposed 24/24/24/120 schedule and should receive equal consideration during the city's evaluation of a fourth operational platoon.

Both schedules provide substantial improvements over the existing three-platoon, 24/48 schedule by reducing average scheduled weekly hours from approximately 56 to 42, decreasing annual duty tours, extending scheduled recovery opportunities, and eliminating regularly scheduled FLSA overtime under the evaluated work periods. Both also require the same additional staffing complement and generate equivalent estimated baseline personnel expenditures.

The principal distinction between the alternatives is the distribution of duty and recovery periods. The 24/72 schedule provides a consistent 72-hour recovery period after every 24-hour duty tour, while the 24/24/24/120 schedule provides a shorter 24-hour recovery period between two duty tours, followed by 120 consecutive hours off.

Table 21: 24/72 Schedule Benchmarked Against the FLSA 14-Day and 28-Day Work Periods

Regular and overtime hours by pay period for a 24/72 schedule for a 14 day FLSA and 28 day FLSA cycle														
24 on /72 off (4 Platoons)														
Hours Worked				14 Day FLSA Cycle Overtime at 106 hours					28 Day FLSA Cycle Overtime at 212 hours					
Pay Period	Week 1	Week 2	Pay Period Total Hours	Pay Period	Regular Hours	Overtime Hours	Pay Period Total Hours	How many shifts until overtime	Pay Period	Regular Hours	Overtime Hours	Pay Period Total Hours	How many shifts until overtime	
1	48	48	96	1	96	0	96	0.42	1	96	0	96		
2	24	48	72	2	72	0	72	1.42	2	72	0	72	1.83	
3	48	48	96	3	96	0	96	0.42	3	96	0	96		
4	24	48	72	4	72	0	72	1.42	4	72	0	72	1.83	
5	48	48	96	5	96	0	96	0.42	5	96	0	96		
6	24	48	72	6	72	0	72	1.42	6	72	0	72	1.83	
7	48	48	96	7	96	0	96	0.42	7	96	0	96		
8	24	48	72	8	72	0	72	1.42	8	72	0	72	1.83	
9	48	48	96	9	96	0	96	0.42	9	96	0	96		
10	24	48	72	10	72	0	72	1.42	10	72	0	72	1.83	
11	48	48	96	11	96	0	96	0.42	11	96	0	96		
12	24	48	72	12	72	0	72	1.42	12	72	0	72	1.83	
13	48	48	96	13	96	0	96	0.42	13	96	0	96		
14	24	48	72	14	72	0	72	1.42	14	72	0	72	1.83	
15	48	48	96	15	96	0	96	0.42	15	96	0	96		
16	24	48	72	16	72	0	72	1.42	16	72	0	72	1.83	
17	48	48	96	17	96	0	96	0.42	17	96	0	96		
18	24	48	72	18	72	0	72	1.42	18	72	0	72	1.83	
19	48	48	96	19	96	0	96	0.42	19	96	0	96		
20	24	48	72	20	72	0	72	1.42	20	72	0	72	1.83	
21	48	48	96	21	96	0	96	0.42	21	96	0	96		
22	24	48	72	22	72	0	72	1.42	22	72	0	72	1.83	
23	48	48	96	23	96	0	96	0.42	23	96	0	96		
24	24	48	72	24	72	0	72	1.42	24	72	0	72	1.83	
25	48	48	96	25	96	0	96	0.42	25	96	0	96		
26	24	48	72	26	72	0	72	1.42	26	72	0	72	1.83	
Total Hours Worked			2184	Totals	2184	0	2184		Totals	2184	0	2184		

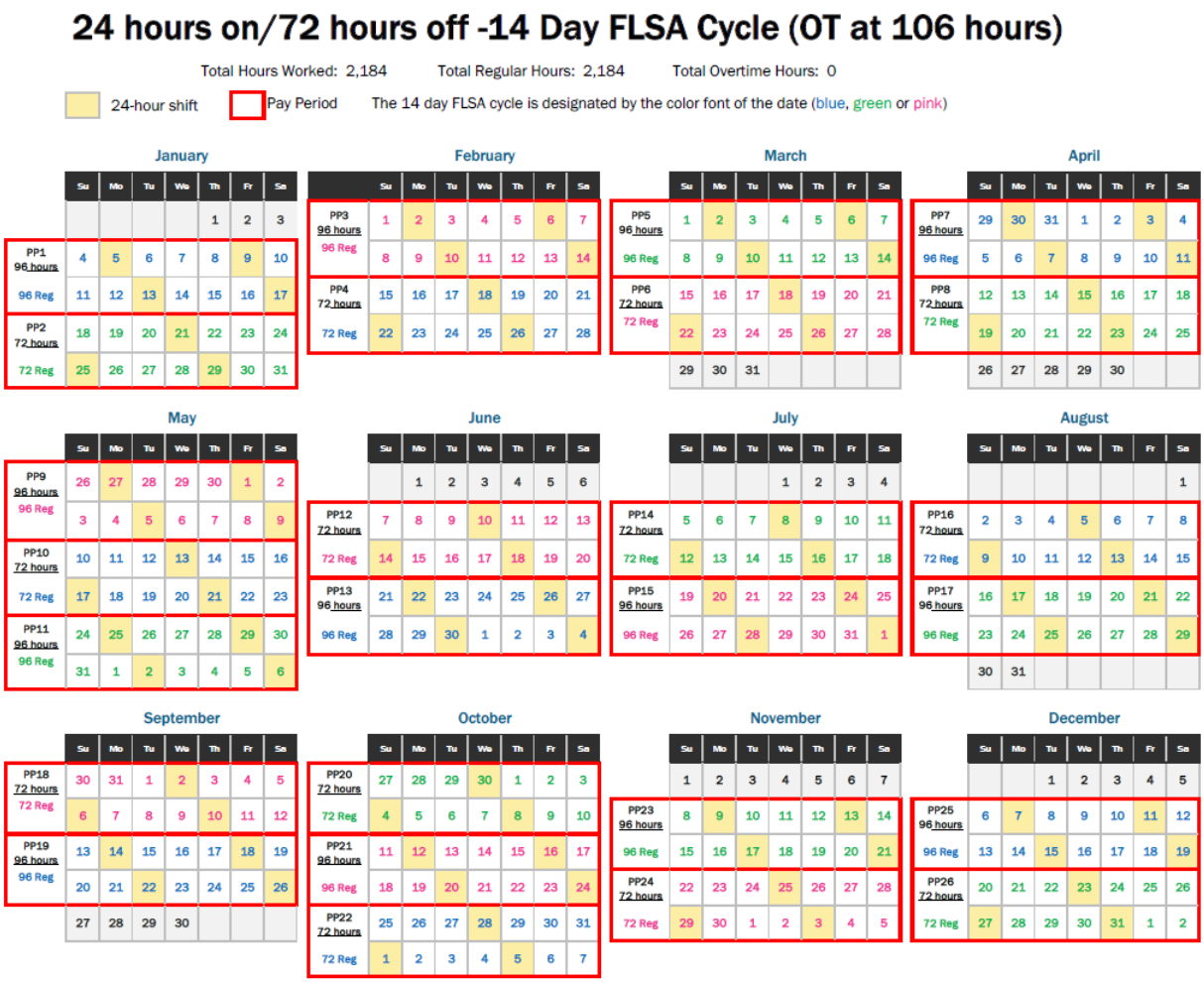
From a fatigue-management and operational readiness perspective, CPSM assesses that the 24/72 schedule offers a potential advantage because it provides a more consistent recovery opportunity between every duty tour. This characteristic is particularly relevant to fire and EMS personnel who may experience substantial overnight sleep interruptions and physically demanding emergency operations. However, the extent of this advantage would depend on actual emergency response workload, sleep disruption, individual recovery, and off-duty activities.

Conversely, the 24/24/24/120 schedule may offer greater appeal to employees who value longer uninterrupted periods away from work. The five-day recovery interval may support work-life balance, family activities, and personal commitments in ways that differ from the more frequent three-day breaks associated with the 24/72 schedule.

CPSM further assesses that neither schedule should be presumed to provide superior recruitment and retention outcomes without considering employee preferences and the department's operational environment. Because both alternatives offer equivalent annual scheduled work hours and baseline personnel costs, the decision should focus on which rotation best supports employee recovery, organizational effectiveness, and long-term workforce sustainability.

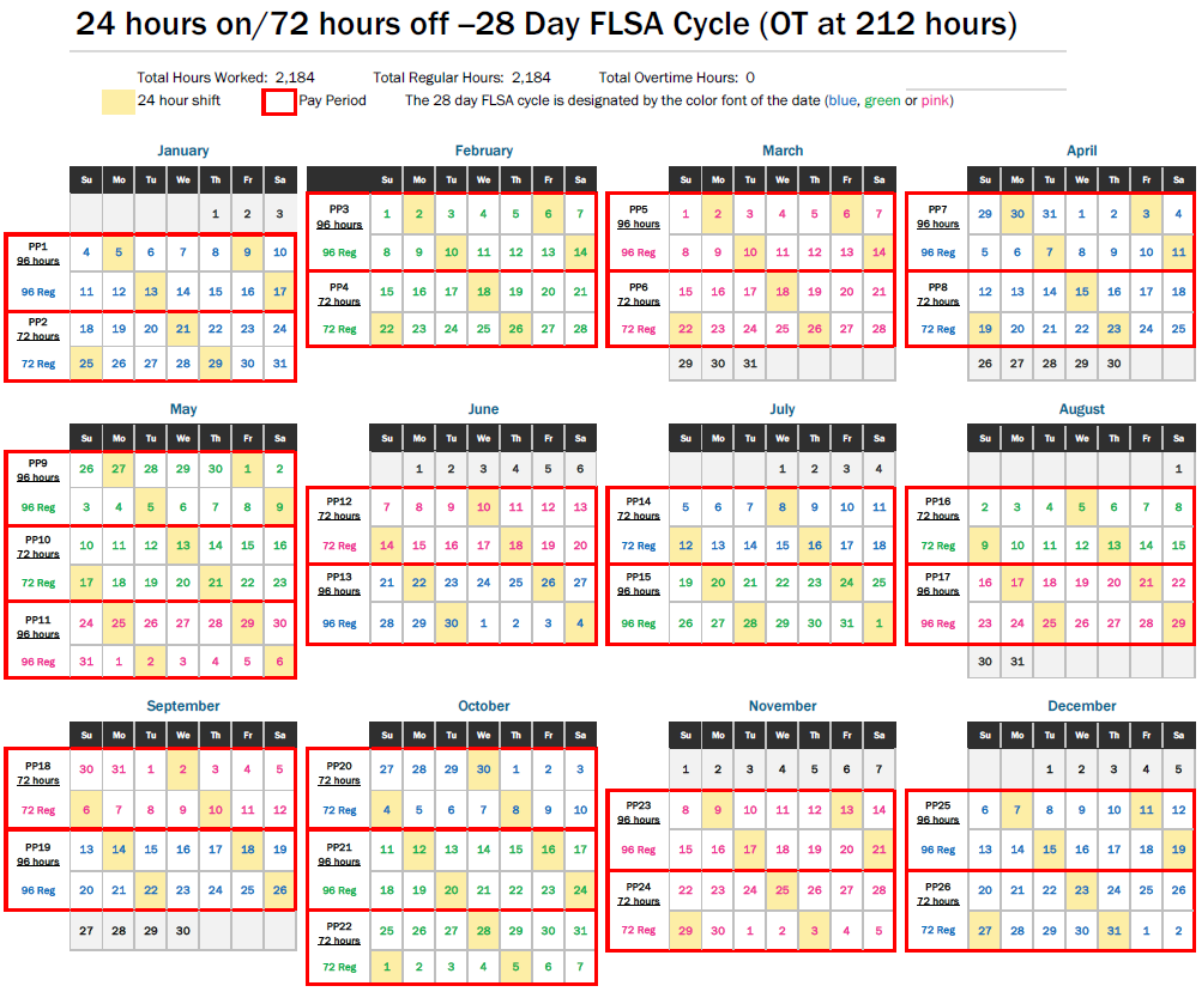
Ultimately, ***CPSM assesses*** that the 24/72 schedule may provide a more consistent approach to employee recovery and fatigue management, while the 24/24/24/120 schedule offers the advantage of longer uninterrupted periods away from duty. Neither alternative creates a material difference in the number of personnel required or the estimated cost of establishing the fourth platoon. Therefore, the city's decision should be guided primarily by operational requirements, employee wellness, recruitment and retention considerations, and the schedule that best supports the department's long-term workforce sustainability.

Figure 4: 24/72 14-Day FLSA Cycle One-Year Calendar



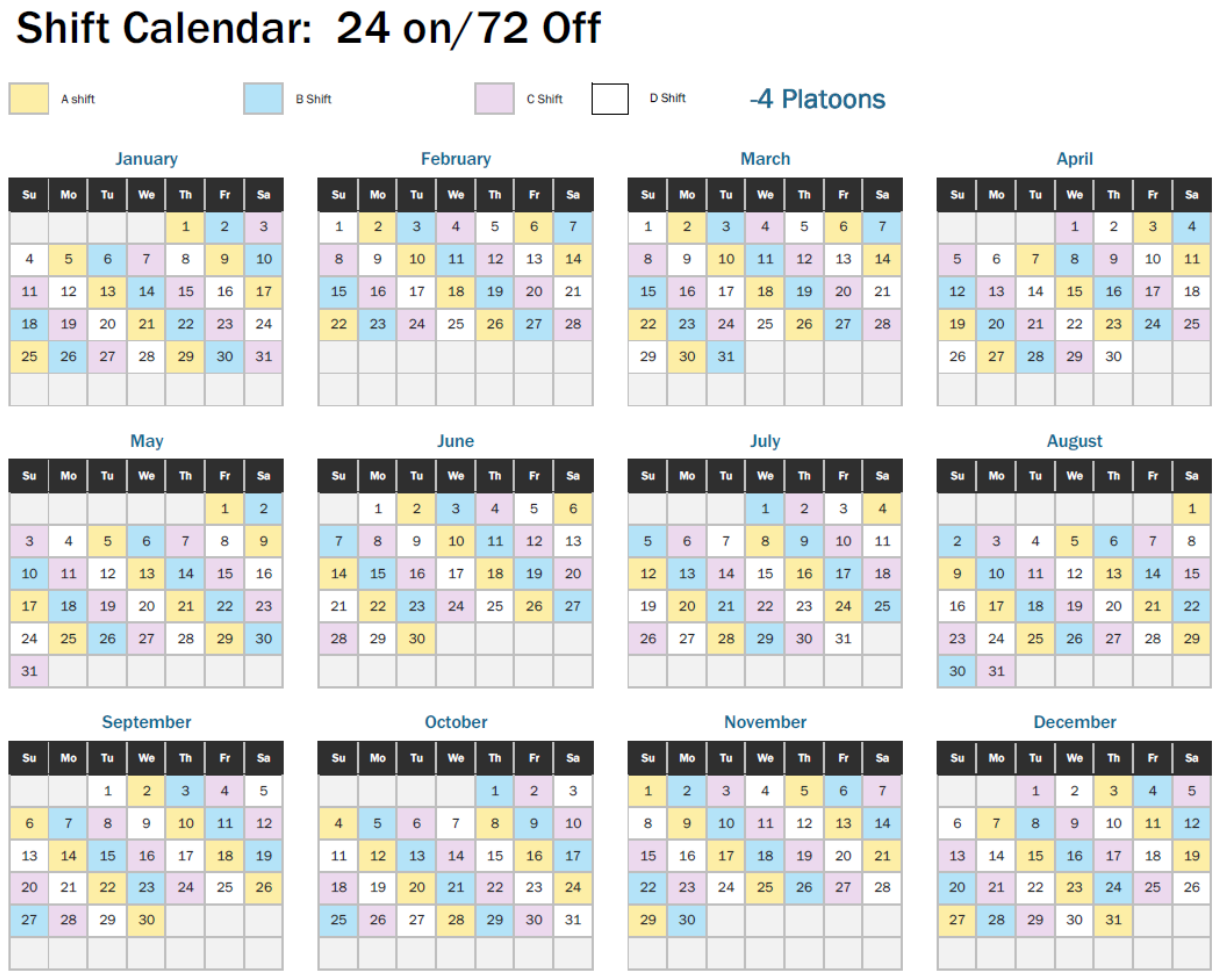
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Figure 5: 24/72 28-Day FLSA Cycle One-Year Calendar



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Figure 6: 24/72 One-Year Shift Calendar



3-Platoon to 4-Platoon Hourly Rate Changes

An important financial consideration associated with transitioning the GCFD from its existing three-platoon, 24/48 schedule to a four-platoon schedule is the effect that reducing scheduled annual work hours has on employee hourly compensation rates and overtime expenditures. Although the proposed transition reduces the average scheduled workweek from approximately 56 hours to 42 hours, the analysis assumes that employees will maintain their existing annual base salaries. Consequently, the reduction in scheduled work hours results in an increase in the calculated hourly rate of compensation, which directly influences the cost of overtime and other compensation calculated on an hourly basis.

Under the existing three-platoon schedule, operational personnel work approximately 2,912 hours annually based on a 56-hour average workweek. Under either proposed four-platoon schedule, personnel would work approximately 2,184 hours annually based on a 42-hour average workweek. This represents a reduction of 728 scheduled hours annually, or 25 percent. The reduction in scheduled hours does not result in a corresponding reduction in annual base salary; rather, the same annual salary is distributed across fewer scheduled work hours.

For example, an employee earning an annual base salary of $75,000 under the existing three-platoon schedule would have an equivalent straight-time hourly rate of approximately $25.76, calculated using 2,912 annual scheduled hours. Under the proposed four-platoon schedule, the same $75,000 annual salary would be divided by 2,184 scheduled hours, resulting in an equivalent hourly rate of approximately $34.34. This is outlined in the next table.

Table 21: 56-Hour Workweek to 42-Hour Workweek Impacts on Hourly Rate

Compensation Measure	Three-Platoon Schedule	Four-Platoon Schedule
Average scheduled workweek	56 hours	42 hours
Annual scheduled hours	2,912	2,184
Illustrative annual base salary	$75,000	$75,000
Equivalent straight-time hourly rate	$25.76	$34.34
Illustrative overtime rate (1.5 times hourly rate)	$38.63	$51.51

Although the annual base salary remains unchanged, the equivalent hourly rate increases by approximately 33.3 percent. When overtime is compensated at one and one-half times the applicable hourly rate, the cost of each overtime hour increases proportionately.

This distinction is particularly important because fire departments must routinely utilize overtime to maintain minimum staffing levels when employees are absent due to vacation, sick leave, injury, training, vacancies, or other operational requirements. Under the four-platoon model, the department would incur a higher cost for each overtime hour worked, even though the transition eliminates regularly scheduled FLSA overtime under the evaluated Section 207(k) work periods. However, premium pay is not paid until the employee reaches the FLSA overtime standard in the FLSA work-period. A 42-hour work week is below the standard 53 hour workweek and the minimum overtime standard is calculated. For a 14-day cycle this is 106 hours, and for a 28-day cycle this is 212 hours.

The financial impact becomes more significant when applied across the department's annual overtime requirements. While the proposed four-platoon schedule reduces regularly scheduled work hours and eliminates schedule-generated FLSA overtime, the higher hourly compensation rate increases the cost of overtime necessary for minimum staffing coverage, employee leave, vacancies, emergency callbacks, and other operational needs.

CPSM assesses that the transition from a three-platoon, 56-hour average workweek to a four-platoon, 42-hour average workweek represents a substantial change in the department's compensation structure, even when annual base salaries remain unchanged. The reduction in scheduled annual hours increases the equivalent hourly rate by approximately 33.3 percent, which has direct implications for overtime expenditures and other compensation calculated using hourly rates.

While the proposed four-platoon schedule eliminates regularly scheduled FLSA overtime under the evaluated work periods, the department will continue to require overtime to maintain established minimum staffing levels. The higher hourly rate associated with the four-platoon

schedule means that each hour of overtime will be more expensive than under the existing three-platoon model, assuming the same overtime compensation multiplier.

CPSM further assesses that this increased overtime rate is an important consideration when evaluating the department's staffing factor, float personnel availability, and historical leave coverage requirements. A four-platoon system may provide meaningful improvements in employee recovery, work-life balance, recruitment, and retention; however, these benefits do not inherently eliminate the need for overtime backfill. If the department continues to experience significant staffing vacancies, employee absences, or insufficient relief staffing, the higher overtime rate could increase the cost of maintaining minimum staffing.

Conversely, if the transition contributes to improved retention, fewer vacancies, reduced mandatory overtime, and more effective management of leave coverage, some of the increased hourly overtime costs may be offset by a reduction in the total number of overtime hours required. These potential savings should be treated as prospective benefits rather than guaranteed financial outcomes.

The financial evaluation of a four-platoon schedule must consider both the elimination of scheduled FLSA overtime and the increased cost of operational overtime resulting from higher hourly compensation rates. Focusing exclusively on the elimination of scheduled overtime could understate the department's future overtime obligations, while applying the higher overtime rate to all existing overtime hours without accounting for changes in staffing availability could overstate future expenditures.

Ultimately, maintaining annual base salaries while reducing scheduled work hours provides a meaningful compensation and workforce benefit to operational employees. However, the corresponding increase in hourly rates creates a financial consideration that must be incorporated into the city's long-term personnel budgeting and the department's strategy for managing overtime expenditures under the proposed four-platoon staffing model.

Alternative 3-Platoon Shift Schedule Cost Analysis

As an alternative to transitioning the GCFD to a four-platoon staffing model, CPSM evaluated a modified three-platoon schedule consisting of 24 hours on duty, 24 hours off duty, 24 hours on duty, 24 hours off duty, 24 hours on duty, followed by 96 consecutive hours off duty (24/24/24/24/24/96). This alternative maintains the department's existing three-platoon staffing structure while modifying the distribution of scheduled duty tours and recovery periods.

The principal advantage of this alternative is that it provides personnel with a recurring four-day period away from duty without requiring the addition of the 18 operational positions necessary to establish a fourth platoon. However, the modified schedule does not reduce the average scheduled workweek, annual duty hours, or overall staffing requirements associated with the existing three-platoon system.

Under the proposed rotation, personnel complete three 24-hour duty tours within a five-day period, with 24 hours off between each tour, followed by 96 consecutive hours off duty. The schedule repeats every nine days and maintains an average scheduled work week of approximately 56 hours.

Scheduled Hours and FLSA Overtime

The schedule analysis illustrates the distribution of regular and overtime hours under both a 14-day and 28-day Fair Labor Standards Act (FLSA) Section 207(k) work period. Because the

modified schedule retains the same average annual work hours as the existing 24/48 schedule, it continues to generate regularly scheduled FLSA overtime.

The table identifies 2,928 scheduled annual hours for the highest-worked platoon during the illustrated 52-week period. However, the distribution of these hours across individual work periods differs from the traditional 24/48 rotation.

Under the 14-day FLSA work period, the schedule generates work periods ranging from 96 to 144 hours. Because the applicable FLSA overtime threshold is 106 hours, work periods exceeding that threshold generate scheduled overtime.

The analysis identifies 282 annual FLSA overtime hours under the 14-day work period, compared with 252 hours under the existing 24/48 schedule. This represents an increase of 30 scheduled overtime hours per employee in the illustrated annual cycle.

Table 22: 24-on/24-off/24 on/24 off/24 on/96 off

Regular and overtime hours by pay period for a 24/24/24/24/24/96 schedule for a 14 day FLSA and 28 day FLSA cycle

24 on/24 off/24 on/24 off/24 on/96 off (3 Platoons)											
Hours Worked				14 Day FLSA Cycle Overtime at 106 hours				28 Day FLSA Cycle Overtime at 212 hours			
Pay Period	Week 1	Week 2	Pay Period Total Hours	Pay Period	Regular Hours	Overtime Hours	Pay Period Total Hours	Pay Period	Regular Hours	Overtime Hours	Pay Period Total Hours
1	72	72	144	1	106	38	144	1	144	0	144
2	48	48	96	2	96	0	96	2	68	28	96
3	48	72	120	3	106	14	120	3	120	0	120
4	48	48	96	4	96	0	96	4	92	4	96
5	48	72	120	5	106	14	120	5	120	0	120
6	72	48	120	6	106	14	120	6	92	28	120
7	48	48	96	7	96	0	96	7	96	0	96
8	72	48	120	8	106	14	120	8	116	4	120
9	48	48	96	9	96	0	96	9	96	0	96
10	72	72	144	10	106	38	144	10	116	28	144
11	48	48	96	11	96	0	96	11	96	0	96
12	48	72	120	12	106	14	120	12	116	4	120
13	48	48	96	13	96	0	96	13	96	0	96
14	48	72	120	14	106	14	120	14	116	4	120
15	72	48	120	15	106	14	120	15	120	0	120
16	48	48	96	16	96	0	96	16	92	4	96
17	72	48	120	17	106	14	120	17	120	0	120
18	48	48	96	18	96	0	96	18	92	4	96
19	72	72	144	19	106	38	144	19	144	0	144
20	48	48	96	20	96	0	96	20	68	28	96
21	48	72	120	21	106	14	120	21	120	0	120
22	48	48	96	22	96	0	96	22	92	4	96
23	48	72	120	23	106	14	120	23	120	0	120
24	72	48	120	24	106	14	120	24	92	28	120
25	48	48	96	25	96	0	96	25	96	0	96
26	72	48	120	26	106	14	120	26	116	4	120
Total Hours Worked			2,928	Totals	2,646	282	2,928	Totals	2,756	172	2,928

Under the 28-day FLSA work period, the table identifies 172 annual overtime hours, equivalent to the existing 24/48 schedule under the same work period. This demonstrates that extending the established FLSA work period can reduce the scheduled overtime exposure associated with the modified rotation, although the actual overtime calculation must be based on complete 28-day work periods rather than individual 14-day payroll periods.

Table 23: Existing 24/48 Schedule Compared to a 24/24/24/24/24/96 Schedule

Schedule Measure	Existing 24/48	Modified 24/24/24/24/24/96
Number of platoons	3	3
Operational personnel	54	54
Average scheduled workweek	56 hours	56 hours
Annual scheduled hours (highest-worked platoon)	2,928	2,928
Annual 24-hour duty tours	122	122
FLSA overtime hours—14-day cycle	252	282
FLSA overtime hours—28-day cycle	172	172
Longest scheduled recovery period	48 hours	96 hours
Additional personnel required	None	None

The modified schedule therefore offers an alternative distribution of duty and recovery periods but does not reduce the total annual workload imposed on operational personnel.

Financial Implications

The modified three-platoon schedule offers a substantially lower-cost alternative to establishing a fourth platoon because it does not require the hiring of 18 additional operational personnel.

Based on the preceding cost analysis, the estimated annual personnel cost of the modified schedule under a 14-day FLSA work period is $6,673,723, compared with $6,641,104 under the existing 24/48 schedule. This represents an increase of approximately $32,619, or 0.5 percent.

Under a 28-day FLSA work period, the estimated annual personnel cost of the modified schedule is $6,554,122, which is equivalent to the modeled cost of the existing 24/48 schedule under the same work period.

Accordingly, the modified three-platoon schedule may provide an opportunity to change the distribution of duty and recovery periods without substantially increasing personnel expenditures. However, the city would not realize the reduction in annual scheduled hours or elimination of regularly scheduled FLSA overtime associated with a four-platoon system.

Advantages of the Modified Three-Platoon Schedule

Extended Recovery Periods

The most significant advantage of the modified schedule is the recurring 96-hour period away from duty following three scheduled 24-hour tours. This provides employees with four consecutive days off, compared with the 48-hour recovery periods associated with the existing 24/48 schedule.

The longer uninterrupted period may provide additional opportunities for sleep recovery, family activities, travel, continuing education, and personal responsibilities. Employees who value extended periods away from the workplace may find this schedule more attractive than the traditional 24/48 rotation.

Recruitment, Retention, and Work-Life Balance

The modified schedule may offer some recruitment and retention benefits by providing a more attractive distribution of time away from work without requiring a substantial increase in the department's personnel budget. The recurring four-day break may improve employee satisfaction and provide greater flexibility for family and personal commitments. This could be particularly relevant for employees who travel to visit family, pursue education, or maintain other responsibilities outside the department.

However, these potential benefits should be distinguished from the more substantial reduction in annual duty hours associated with a four-platoon schedule.

Limited Additional Personnel Costs

Unlike the four-platoon alternatives, the modified three-platoon schedule does not require an increase in authorized staffing. The department would continue operating with its existing 54 operational personnel, and the city would avoid the substantial recurring personnel expenditures associated with hiring an additional 18 employees.

This makes the modified schedule a potentially attractive alternative if financial constraints prevent the city from implementing a fourth platoon in the near term.

Disadvantages and Operational Considerations

Concentrated Duty Tours and Fatigue Exposure

The principal disadvantage of the modified schedule is the concentration of three 24-hour duty tours within a relatively short period. Personnel would work 72 hours during a five-day span, with only 24 hours off between successive duty tours.

For firefighters and paramedics assigned to busy apparatus or EMS units, this arrangement may create significant fatigue-management concerns. If personnel experience repeated nighttime emergency responses, the intervening 24-hour recovery periods may not provide sufficient time to fully recover before returning to duty.

Although the subsequent 96-hour break provides an extended recovery opportunity, it does not eliminate the potential for cumulative fatigue during the three-tour work sequence. This is particularly relevant for personnel performing physically demanding tasks, emergency vehicle operations, patient care, and other safety-sensitive activities.

No Reduction in Annual Scheduled Work Hours

The modified schedule maintains the existing 56-hour average workweek and approximately 2,928 annual scheduled hours for the highest-worked platoon.

Consequently, personnel would continue working essentially the same number of annual duty tours as under the existing 24/48 schedule. While the distribution of recovery periods changes, the overall exposure to emergency responses, overnight sleep interruptions, and occupational demands remains tied to the same annual scheduled workload.

Continued FLSA Overtime Exposure

The modified schedule does not eliminate regularly scheduled FLSA overtime. Under the modeled 14-day work period, it generates more scheduled overtime than the existing 24/48 schedule.

Although the 28-day work period produces equivalent modeled overtime hours under both three-platoon rotations, the department would continue incurring schedule-generated overtime expenses. Any modification to the established FLSA work period would also need to comply with applicable federal requirements and city compensation policies.

Potential Impact of Mandatory Overtime

The modified schedule may also present challenges when employees are required to work additional overtime assignments during scheduled recovery periods.

A mandatory overtime assignment during one of the 24-hour breaks between scheduled duty tours could substantially increase consecutive duty hours and fatigue exposure. Similarly, overtime assignments during the 96-hour recovery period could reduce the principal work-life balance advantage of the modified schedule.

Accordingly, the department would need to carefully evaluate its minimum staffing requirements, float personnel availability, and mandatory overtime practices before implementing this rotation.

CPSM assesses that the modified three-platoon, 24/24/24/24/24/96 schedule represents a financially viable alternative to the department's existing 24/48 rotation, particularly if the city is unable to support the additional personnel expenditures associated with establishing a fourth platoon.

The primary advantage of the modified schedule is its ability to provide employees with a recurring 96-hour period away from duty while maintaining the existing three-platoon staffing complement. This may improve certain aspects of work-life balance and employee satisfaction without requiring the addition of 18 operational positions.

However, ***CPSM assesses*** that the potential benefits of the extended recovery period must be weighed against the concentration of three 24-hour duty tours within a five-day period. This arrangement may increase short-term fatigue exposure, particularly when personnel experience substantial nighttime emergency activity or are required to work additional overtime during their scheduled recovery periods.

CPSM further assesses *that the modified schedule does not fundamentally address one of the principal workforce concerns associated with the existing three-platoon system: the number of annual scheduled work hours. Employees would continue working approximately 56 hours per*

week, with the same number of annual duty tours and continued exposure to schedule-generated FLSA overtime.

From a financial perspective, the modified schedule offers a clear advantage over transitioning to a four-platoon model because it does not require additional operational personnel. Nevertheless, the absence of additional staffing also means that the department would not gain the increased personnel capacity associated with establishing a fourth platoon. The department would continue relying on its existing staffing complement, float personnel, and overtime backfill to maintain minimum staffing requirements.

Overall, CPSM assesses that the modified three-platoon schedule should be considered an alternative scheduling strategy rather than an equivalent substitute for a four-platoon system. While it may provide employees with longer uninterrupted periods away from duty, it does not offer the same reduction in annual scheduled hours, frequency of duty tours, or cumulative occupational exposure associated with a 42-hour average workweek.

If the city determines that a four-platoon transition is not financially achievable in the near term, the modified three-platoon schedule may warrant further consideration as an interim workforce initiative. However, CPSM recommends that any decision to implement this schedule be supported by a comprehensive review of operational workload, employee wellness, and the department's ability to protect scheduled recovery periods from excessive overtime assignments.

Ultimately, the modified three-platoon schedule provides a different distribution of work and recovery time at relatively limited additional cost, while the four-platoon alternatives provide a more substantial reduction in annual scheduled work hours and potentially greater long-term benefits for employee wellness, recruitment, retention, and workforce sustainability.

The next set of figures outlines the alternative 3-platoon schedule using a 14-day FLSA work period and a 28-day FLSA work period. As well, a 24/24/24/24/24/96 one year shift calendar is included for illustrative purposes.

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Figure 7: 24/24/24/24/24/96 14-Day FLSA Cycle One-Year Calendar

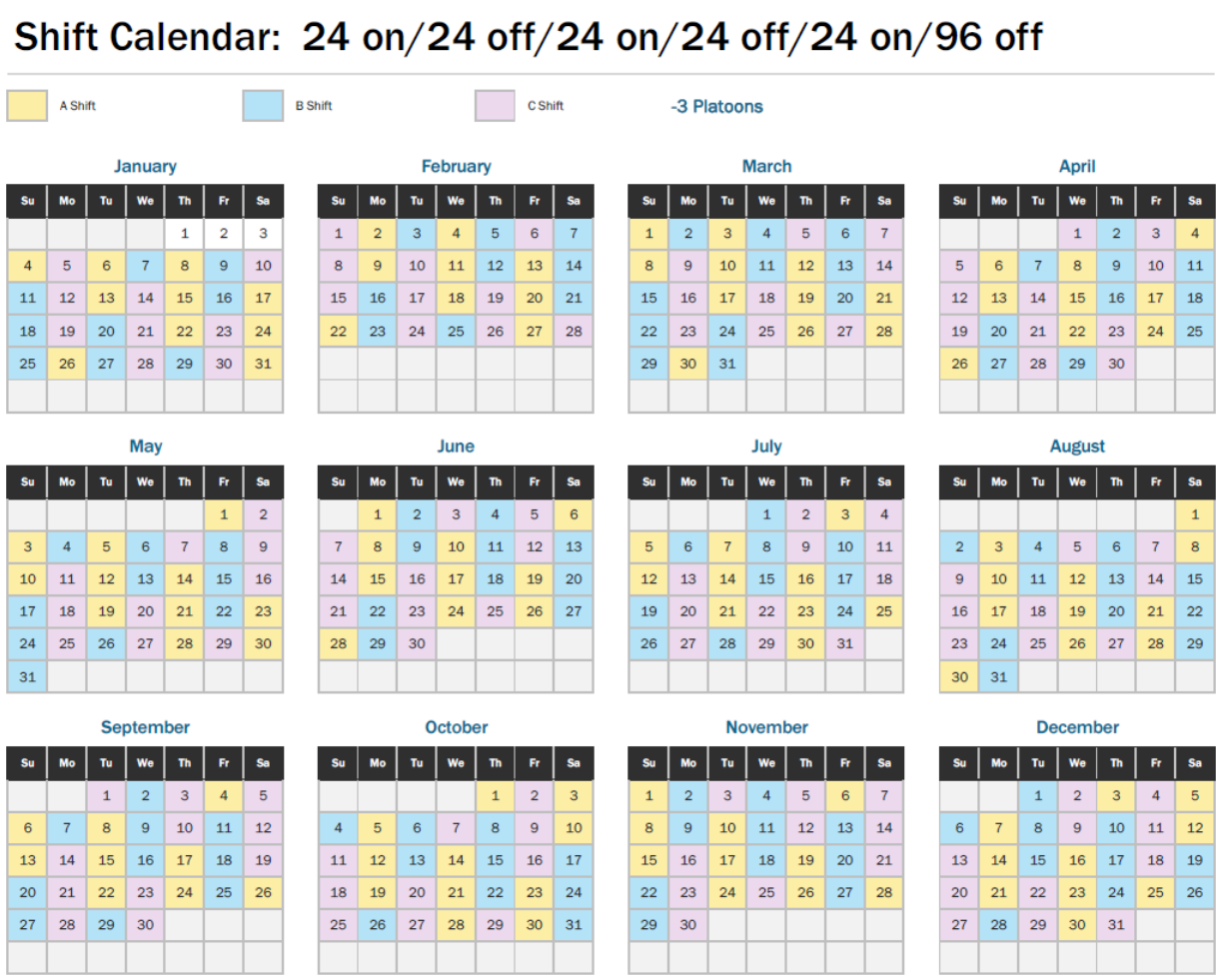


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Figure 8: 24/24/24/24/24/96 28-Day FLSA Cycle One-Year Calendar



Figure 9: 24/24/24/24/24/96 One-Year Shift Calendar



End of Section

End of Report

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THE CITY OF GOOSE CREEK